

sgi.



StorHouse Command Language Reference Manual

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StorHouse®



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Welcome

The *Command Language Reference Manual* defines and explains the StorHouse® Command Language, which is the standard command interface between an SGI® StorHouse system and its host computers. This manual also explains how to use the StorHouse operating system as a StorHouse host.

Purpose of This Document

This document is a reference guide for all StorHouse users. It describes all StorHouse commands in detail.

Intended Audience

This document presents information for all StorHouse users. Each command is written for the user with the appropriate authorization, such as a system administrator or a system operator.

Contents

This document consists of three chapters and four appendixes:

- Chapter 1, “StorHouse User Interface,” describes signon and signoff procedures and provides an overview of communicating with StorHouse.
- Chapter 2, “Using StorHouse Command Language,” describes command formats, syntax, and execution.

- Chapter 3, “Command Descriptions,” describes all StorHouse Command Language commands.
- Appendix A, “System Parameter Descriptions,” defines StorHouse system parameters and gives their type, range, default value, and user access.
- Appendix B, “Data Field, Parameter, and Modifier Definitions,” describes and lists examples of StorHouse Command Language modifiers and data fields.
- Appendix C, “ASCII Characters,” lists ASCII characters and their hexadecimal values.
- Appendix D, “Access and Command Privileges,” describes the access and command privileges required to execute StorHouse commands.

Related Documentation

You may want to refer to the following additional StorHouse documents:

- *Host Installation and Operations Guide*, publication number 900011 for IBM™ MVS™ hosts, 900051 for UNIX® hosts, and 900052 for DOS hosts, explains how to install the StorHouse host software. These guides are intended for system administrators and system programmers.
- *StorHouse Glossary*, publication number 900027, defines StorHouse terms. It is intended for all StorHouse users.
- *Messages and Codes Manual*, publication number 900032, lists all StorHouse system and host software messages by status code, gives the meaning of each message, and indicates any actions to take as a result of the messages. This manual is intended for all users.

Notational Conventions

For StorHouse Command Language examples and procedures, this document assumes that your standard access method is the StorHouse Interactive Interface. This book uses the following conventions for illustrating command formats, presenting examples, and identifying special terms:

Convention	Meaning
Angle brackets (< >)	Enclose optional entries
Braces ({ })	Enclose descriptive terms or a choice of entries
Courier font	Code
<i>Italics</i>	New terms and emphasized text
lower case Helvetica font	User entries
UPPER CASE	System responses and StorHouse terms

Command Language descriptions use the following terms:

Term	Specifies
FUNCTION	Action performed
FORMAT	Format and range of valid values for a parameter or modifier
FORMAT RESTRICTIONS	Important format requirements or limitations
DEFAULT	Default if you do not specify a value
PRIVILEGE	Required privilege(s)
ACCESS REQUIREMENTS	Required access types for accounts, file access groups, and files
RESTRICTIONS	Restrictions on the use of a parameter, modifier, or command
HOST DEPENDENCIES	Restrictions, exceptions, or capabilities placed on a command, parameter, or modifier when you execute it through a particular host or host interface



Welcome

Notational Conventions

StorHouse User Interface

StorHouse Command Language allows you to monitor and control the StorHouse system. StorHouse commands let you perform the following general functions:

- Store and access data
- Manage storage
- Manage the system and its devices
- Control access accounts.

There are three interfaces that support StorHouse command processing:

- *Interactive Interface* – allows you to enter StorHouse commands from a host input/output device (a terminal, for example) and receive responses.
- *Disk File Transfer Interface* – performs PUT and GET file transfer functions from a host.
- *Callable Interface* – allows you to enter a subset of StorHouse commands from an application program running on a host system.

The Interactive Interface and the Disk File Transfer Interface are described in this chapter. The Callable Interface is described in the *Callable Interface Programmer's Guide* for IBM MVS hosts (publication number 900013) and the *Generic Callable Interface Programmer's Guide* (publication number 900046) for all other hosts.

For complete descriptions of all Command Language commands, see Chapter 3, "Command Descriptions."

Communicating with StorHouse

To gain access to StorHouse and enter commands, you must start a StorHouse *session*. A session begins when you sign on to StorHouse and ends when you sign off. StorHouse controls user access through an account system. Each user account has a set of privileges and can access one or more groups of files.

Each StorHouse host has an access program that allows you to communicate with StorHouse. Each StorHouse processor has an access program that allows you to use the processor as a StorHouse host. This access program is a StorHouse interactive interface for UNIX hosts.

The Interactive Interface

The Interactive Interface allows you to:

- Start a StorHouse session by signing on to StorHouse
- Enter StorHouse Command Language commands and receive responses
- End a StorHouse session and the Interactive Interface program by signing off from StorHouse.

This chapter includes procedures for starting a StorHouse session from UNIX and IBM MVS hosts. To sign on to StorHouse from the StorHouse operating system, follow the procedure outlined in the next section, “Starting a StorHouse Session from a UNIX Host.”

Starting a StorHouse Session from a UNIX Host

- ▼ To start a StorHouse session from a UNIX host, follow these steps:

1. At the operating system prompt, type the following command and press **R** :

```
sm
```

The interface displays the SGI StorHouse/SM and prompts you to type an account identification code (aid).

2. At the Account? prompt, type an account identification code and press **R** .

The interface prompts you for a password:

3. At the Password? prompt, type your password and press **R** .

The interface does not display the password when you type it.

Upon signon verification, the interface displays the welcome message and prompts you for a command. Figure 1-1, “StorHouse Signon from a UNIX Host” shows a sample signon screen.

```
hostname.1> sm

SGI's StorHouse/SM

Account? useraid
Password? <password does not display>

Welcome to the SGI StorHouse System - Release x.y  UID:n
  StorHouse/RM Release x.y
  Last signed on:DD-MMM-YYYY:HH:MM:SS
  Enter HELP for help
?
```

Figure 1-1: StorHouse Signon from a UNIX Host

The first line of the welcome message indicates the release number of the StorHouse software in the format version (x) and release (y). The user identification code (UID) is a number (n) that the system uses to identify your session.

On the second line, Last signed on gives the day (DD), the first three characters of the month (MMM), the year (YYYY), the hour (HH), the minute (MM), and the second (SS) of the last time the account was signed on. If you have not signed on before, Last signed on does not display.

The ? is the StorHouse command prompt. You have now signed on to StorHouse and can execute commands.

Starting a StorHouse Session from an IBM MVS Host

To start a StorHouse session from an IBM MVS host, you must sign on to StorHouse. The signon procedure may differ at various installations. Ask your StorHouse system administrator for the exact signon procedure at your site.

▼ **To start a StorHouse session from an IBM MVS host, a typical signon procedure begins by invoking the StorHouse Command Processor:**

1. At the prompt, type the following TSO command and press R .

```
SM1
```

The interface displays the message `Welcome to SGI's MVS/TSO Interactive StorHouse-VxRy` indicating the version (x) and release (y) of the StorHouse host software. Next, it prompts you to type an account identification code (aid).

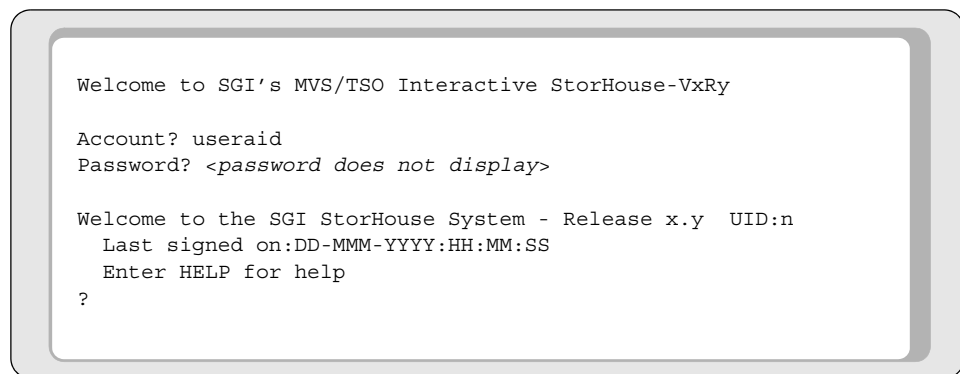
2. At the `Account?` prompt, type an account identification code and press `R`.

The interface prompts you for a password:

3. At the `Password?` prompt, type your password and press `R`.

The interface does not display the password when you type it.

Upon signon verification, the interface displays the welcome message and prompts you for a command. Figure 1-2, "StorHouse Signon from an IBM MVS Host" shows a sample signon screen.



```
Welcome to SGI's MVS/TSO Interactive StorHouse-VxRy

Account? useraid
Password? <password does not display>

Welcome to the SGI StorHouse System - Release x.y  UID:n
  Last signed on:DD-MMM-YYYY:HH:MM:SS
  Enter HELP for help
?
```

Figure 1-2: StorHouse Signon from an IBM MVS Host

The first line of the welcome message indicates the release number of the StorHouse software in the format version (x) and release (y). The user identification code (UID) is a number (n) that the system uses to identify your session.

On the second line, `Last signed on` gives the day (DD), the first three characters of the month (MMM), the year (YYYY), the hour (HH), the minute (MM), and the second (SS) of the last time the account was signed on. If you have not signed on before, `Last signed on` does not appear.

The `?` is the StorHouse command prompt. You have now signed on to StorHouse and can execute commands.

Executing the StorHouse Command in a CLIST

If the StorHouse Command Processor is executed from a CLIST, it reads all input from the CLIST. To switch back to the terminal, enter this CLIST line following the StorHouse call:

```
TERMIN END
```

You can replace END with any string that will not be entered at the beginning of a command line for StorHouse. If you omit TERMIN from the CLIST, the StorHouse Command Processor reads all remaining CLIST lines and then switches to the terminal.

Getting Online Help

To obtain online help, which displays selected portions of this and other documents on your terminal, enter the HELP command in response to the StorHouse command prompt as follows:

```
? HELP
```

You will see a description of the HELP command and a list of topics, which includes StorHouse Command Language commands. You can obtain help on any one of the topics by entering HELP followed by the topic (you can abbreviate the topic to the shortest unique set of beginning characters). For example,

```
? HELP PUT
```

displays a brief description of the PUT command and a list of PUT command subtopics. You can obtain help on one of the subtopics (parameters, for example) by entering:

```
? HELP PUT PARAMETERS
```

If you already know the topic or subtopic for which you want help, you can enter the HELP command with the topic or subtopic to obtain the desired help directly. In other words, you do not have to enter HELP or HELP PUT before you enter HELP PUT PARAMETERS.

The HELP command is described fully on page 3-136.

Ending a StorHouse Session

To end a StorHouse session, enter the SIGNOFF command in response to a StorHouse command prompt:

```
? SIGNOFF
```

This returns you to the control of your local operating system (for example, the StorHouse operating system). The Interactive Interface displays the date and time at signoff.

Aborting the StorHouse Interactive Interface

You can abort the StorHouse Interactive Interface access program as follows:

Host Type	Abort Key Sequence
UNIX	C \
IBM MVS	PA1

Note Avoid aborting a session that you can terminate normally; in other words, use the StorHouse Command Language SIGNOFF command whenever possible.

StorHouse Operating System Logout

After ending your StorHouse session, you must log out of the StorHouse operating system. To do this, enter the UNIX logout command at the operating system prompt. For more information about the StorHouse operating system and user procedures, refer to the StorHouse operating system documentation.

The Disk File Transfer Interface

The Disk File Transfer Interface supports the SEQUENTIAL file type only. The StorHouse software supports SEQUENTIAL files as the basic file organization. For a SEQUENTIAL file, StorHouse stores records in the order in which you write them. StorHouse does not maintain control information that allows random access of records. Virtual Record Access Manager (VRAM) software must be added to StorHouse to support the other formats.

You can use the Interactive Interface to direct the File Transfer Interface to perform a transfer function. The File Transfer Interface, which transfers files between StorHouse and a host storage device, allows you to:

- PUT a host file from a host storage device to StorHouse

- GET a host file to a host storage device from StorHouse.

The Interface PUTs and GETs only SEQUENTIAL files. The files can have one of the following types of record formats:

- Host-dependent record format
- Transportable BINARY record format
- Transportable ASCII record format.

The *Command Language Reference Manual* focuses on how to work with SEQUENTIAL files.

File and Record Format Identification

StorHouse identifies file and data record formats using the file type, the file system type, the host type, and the file's organization. The interpretation of file system type and host type depends on the value of file type. The use of host type depends on the value of file system type. Table 1-1, "File and Record Format Identification" shows the values in decimal for file type, file system type, and host type.

Table 1-1: File and Record Format Identification

File Type	File System Type	Host Type	Description
01			Standard, StorHouse Framed File
	03	17	IBM MVS DFDSS Unload
	04	05	DEC VAX/VMS RMS Block Mode
	65	n/a	Transportable ASCII Character Stream
	66	n/a	Transportable Binary Records
	67	33	UNIX Binary Byte Stream

PUT Function

In a PUT function, the Disk File Transfer Interface transfers a host file from a host storage device to a SEQUENTIAL StorHouse file. The interface reads file label information and data from the host disk and creates directory information and file records for the StorHouse file.

For host-dependent formats, the interface may store host file format and identification information with the file data. The interface determines the content and format of StorHouse file data records. The interface stores the data and format information so that it can reconstruct the host file as close to its original form and identity as possible.

For transportable formats, the interface reads data from the host disk using sequential, record-oriented, standard host data access facilities. The interface stores the data as sequential records, with no file characteristics information preserved other than the following items, which are recorded in the StorHouse file directory:

- The length of the longest record
- Whether the file has fixed-length records
- The print control characteristics (none, ANSI carriage control, or printer machine-level control).

The interface can transfer a host file in a transportable ASCII format if the file consists of host-standard character data that is translatable to 8-bit ASCII character data.

For IBM Host Users

To transfer a non-transportable, host-dependent data set from an IBM MVS host to StorHouse, you must use the IBM File Transfer Option and the IBM Data Facility Data Set Services (DFDSS) utility. If DFDSS has not been installed on your IBM MVS host system, you must use the PUT command to transfer the data sets to StorHouse with transportable formats, regardless of their original format. Without DFDSS, you can use only PUT /ASCII or PUT /BINARY commands.

For UNIX Hosts

The UNIX Interactive Interface supports transportable ASCII and host-dependent formats, but it does not support transportable BINARY format.

GET Function

In a GET function, the interface transfers a SEQUENTIAL StorHouse file to a file on host magnetic disk. The StorHouse file must have one of the formats produced by the interface's PUT function.

Different StorHouse file formats may produce different host file formats, as follows:

- A SEQUENTIAL file with a host-dependent record format produces a specific host file format, as determined by the information stored in the file by the PUT function.
- A SEQUENTIAL file with a transportable BINARY record format produces a host file organization that is most suited to a sequential stream of variable or fixed-length binary records. The interface does *not* process the file data further, such as performing word alignment or data field format translation, to make the data suitable for use on the host.
- A SEQUENTIAL file with a transportable ASCII record format produces a host file organization that is most suited to a sequential stream of variable or fixed-length records of host-standard character data.

Using StorHouse Command Language

This chapter describes StorHouse Command Language, including:

- Command Language functions
- User environments and privileges
- Command format, syntax, and execution
- System responses.

Chapter 3, “Command Descriptions” describes each command and its accompanying parameters and modifiers in detail.

Command Language Function

StorHouse Command Language lets you monitor and control StorHouse. It consists of commands, parameters, and modifiers in the form of words or acronyms that StorHouse recognizes and responds to in a predetermined way.

StorHouse Command Language lets you perform the following general functions:

- Create, modify, delete, and show information for files
- Transfer files between a host and StorHouse
- Migrate files between StorHouse storage media
- Back up files
- Create, modify, delete, and show information for storage allocation
- Show and modify information for storage media and the system
- Control the system and system devices
- Create, modify, remove, and show information for user accounts
- Change session parameters and terminate a session.

You can enter commands from host terminals or from the StorHouse console terminal.

Default Environment

When you sign on, the system assigns a default environment to your session. This environment consists of the following elements:

- Access group name
- Rights
- Volume set name
- File set name
- Wild card character.

You can change the default environment temporarily. (See the SET USER command description on page 3-302.) The change remains in effect until your current session ends or until you modify it again.

If you do not specify alternate names on a command, StorHouse uses the default names when processing the command. Access rights specify your default access type(s) to the default group upon signon. Note that the default access rights do not prevent access to the default group. Instead, they allow you to gain access without specifying passwords.

Privileges

Each account has a set of privileges. There are two types of privileges: access and command.

- *Access* privileges allow an account user to bypass various security checks.
- *Command* privileges allow an account user to perform specific commands and functions, or groups of commands and functions.

Access privileges do not override command privileges and command privileges do not override access security checks. That is, you must have both the required command privileges and the required access privileges (or pass all required security checks) to be able to execute commands. Access and command privileges are defined in Appendix D, "Access and Command Privileges."

Command Formats and Components

Command lines have the following format:

```
command /modifier=data... parameter /modifier=data... parameter...
```

The command portion of a command line indicates the action that you want StorHouse to perform. A command may have optional or required modifiers (with or without data fields) and parameters.

Modifiers

Modifiers limit or enhance the scope of a command or a parameter or provide additional data to be used in the command. There are two kinds of modifiers: *command* modifiers and *parameter* modifiers. You must precede each modifier with a slash (/).

Some modifiers can be negated or turned off by inserting the letters NO between the slash and the modifier. Generally, the NO option is used to nullify a modifier that is present in a command by default.

If you use modifiers, you must specify them after the command or parameter that they modify. If you specify a modifier before the command or between the first and second words of a two-word command, StorHouse rejects the command.

Command Modifiers

Command modifiers limit or provide an additional function for the entire command. A command modifier always has the same effect on a command, regardless of where it is placed in a command line.

Valid command modifiers are listed in the “Command Modifiers” sections of the command descriptions in Chapter 3, “Command Descriptions.” In addition, general command modifier descriptions appear in Appendix B, “Data Field, Parameter, and Modifier Definitions.”

Parameter Modifiers

Parameter modifiers provide additional information for a parameter, help to select a particular parameter, or define special functions to be performed for the parameter.

While the parameter modifiers for each command may have the same name, the function of a particular modifier may differ slightly from command to command. In addition, the function of a parameter modifier depends on its placement in the command line:

- To modify a particular parameter, place the modifier after that parameter but before the next parameter in the command line.
- To modify *all* parameters in a command line, place the modifier after the command but before the first parameter.

Valid parameter modifiers are listed in the “Parameter Modifiers” sections of the command descriptions in Chapter 3, “Command Descriptions.” General parameter modifier descriptions appear in Appendix B, “Data Field, Parameter, and Modifier Definitions.”

Valid Characters in StorHouse Commands

Command Language command lines must consist of ASCII characters or characters that can be translated to ASCII:

Host Interface	Valid Characters
UNIX	ASCII
IBM MVS ¹	EBCDIC

1. On non-ASCII terminals, some of the printable characters may not appear or may appear as different characters.

Table 2-1 lists the printable ASCII characters.

Table 2-1: Printable ASCII Characters

Printable ASCII Characters					
A-Z	uppercase letters	+	plus sign	()	parentheses
a-z	lowercase letters	~	tilde	< >	angle brackets
0-9	digits	,	comma	[]	square brackets
!	exclamation point	-	hyphen	{ }	braces
"	quote	.	period	\	backslash
#	number sign	/	slash	^	circumflex
\$	dollar sign	:	colon	_	underscore
%	percent sign	;	semicolon		vertical bar
&	ampersand	=	equal sign	'	reverse apostrophe
'	apostrophe	?	question mark		space
*	asterisk	@	at sign		

Appendix C, "ASCII Characters" lists the ASCII characters with their corresponding hexadecimal values.

Using Special Symbols in StorHouse Commands

You must enclose most symbols (non-alphanumeric characters) in quotes on a command line. Do not, however, enclose special symbols in quotes unless they are part of a specification, such as a file name. Special symbols are ASCII characters that allow StorHouse to parse and interpret a command line.

Table 2-2 defines the special symbols.

Table 2-2: Special Symbols

Symbol	Name	Description
*	Asterisk	Default wild card symbol. The asterisk indicates that any or all applicable values can be substituted for the wild card symbol. The asterisk can replace data fields in some commands. If desired, you can specify an alternate character as the wild card. This allows you to use the asterisk as a normal character in file names. See the following section, "Using the Wild Card Character," for more information.
:	Colon	Separates data subfields. Use a colon in data fields to separate two subfields.
,	Comma	Separates items in a list. You must place a comma between consecutive data fields in a list of data fields.
=	Equal sign	Assignment symbol. Place an equal sign between a modifier and a data field to assign the value of the data field to the modifier.
!	Exclamation point	<p>Comment delimiter. In most commands, or if the exclamation point is the first non-blank character in a command line, it marks the beginning of a comment—one or more characters that are to be ignored during command processing. The end of the command line marks the end of the comment.</p> <p>Note: For IBM hosts, you must use a solid vertical bar in place of an exclamation point.</p> <p>Also, a data field delimiter. In some commands (for example, the SERVICE and SCHEDULE commands), the exclamation point (or vertical bar) marks the beginning of a data field.</p>
-	Hyphen	<p>Continuation symbol. You can use any number of input lines to enter a command, as long as all but the last input line end with hyphens and the total command length does not exceed 255 characters.</p> <p>Negation (minus) sign. Indicates a negative value in a numeric field.</p> <p>Data subfield separator. The hyphen is used in some data fields to separate two subfields.</p>

Table 2-2: Special Symbols (continued)

Symbol	Name	Description
()	Parentheses	List delimiters. If a list of values is assigned to a modifier, you must enclose the list in parentheses.
"	Quote	Literal character string delimiter. You must place a quote immediately before and after a data field consisting of a string of characters where one or more of the characters is not alphanumeric, or where lowercase characters should not be translated to upper case.
/	Slash	Modifier indicator symbol. Place a slash immediately before all modifiers.
	Space	Field delimiter. Separates command and parameter fields and, optionally, modifier fields in a command line. Multiple consecutive spaces are treated as a single space. You must place at least one space between the last modifier and the first parameter, and between multiple parameters. You can place spaces before the command or between modifiers, but these are not required.

Using the Wild Card Character

You can include the StorHouse wild card character in some commands to replace numeric data fields, or partial or entire character-string data fields, such as file names, group names, and file versions.

Using a wild card widens the scope of a command. For example, the following command displays information for all files in your default file access group:

```
? SHOW FILE *
```

By default, the wild card character is the asterisk (*). You can change the wild card character with the SET USER /WILDCARD command (see the SET USER command on page 3-302).

The wild card character is not valid in all commands or in all instances of the same command. For example, you cannot use a wild card character in a host file name or in group or file passwords. In addition, if you use a wild card in a group or file specification, you cannot use group or file passwords. The command descriptions in Chapter 3, "Command Descriptions" will help you determine whether a wild card is valid in a particular case.

Using the Double Quote (“) Special Character

If you use a double quote (") as a character in a StorHouse file name, you must precede it by another double quote to indicate that the double quote is actually part of the file name. Because the double quote is a non-alphanumeric character, you must enclose the entire file name in double quotes. For example, the file name FILE"DAT must be written as "FILE"DAT".

If a file name is not enclosed in double quotes, all lowercase characters in the file name are translated to upper case. If a file name is enclosed in double quotes, lowercase characters remain distinct from uppercase characters. For example, StorHouse considers the file name "filedat" to be different from the file name filedat, even though the two file names have the same character sequence. The file name "filedat" remains in lower case, while the file name filedat is translated to FILEDAT.

When you transfer files between StorHouse and the host, StorHouse provides certain file name translation capabilities and defaults. See the command descriptions of GET and PUT for further information.

Executing StorHouse Commands

The following rules apply when executing StorHouse commands:

- StorHouse commands must contain ASCII characters or characters that can be translated to ASCII.
- A command line cannot contain more than 255 characters.

If a command is longer than one line on your terminal screen, but it does not exceed the 255-character limit, either allow it to wrap on the screen or type a hyphen at the end of each line to indicate a continuation. Command examples in this document are assumed to wrap.

- You can enter commands in upper and/or lower case.
- You can abbreviate commands to their shortest unique set of characters. Only the first four characters of a command or a modifier are significant; that is, all commands and all modifiers are unique within four characters. Commands consisting of two words, such as SHOW VOLUME and SHOW VSET, are unique in the second word.
- Each command line must have a command.
- You can specify only one command per command line.
- The command must be the first field in the command line.

- If the first character is a comment character (! on a UNIX host or | on an IBM MVS host), StorHouse discards the command and prompts for another command.

The system response that appears after you enter a command notifies you of the command's status.

System Responses

Command processing is complete when a question mark (?) prompt appears for the next command. If a command produces text responses, the question mark appears after the response lines, prompting for the next command.

If a command produces a text response, it will be one of the following types:

Response	Definition	Description
A	Action	The operator must take action, such as load a volume.
E	Error	The command ended with an error, but the system may continue processing.
F	Fatal error	The system cannot continue command processing.
I	Information	The system returns information to you.
S	Success	The command completed successfully.
W	Warning	The command may have performed some but not all of the request.

See the *Messages and Codes Manual*, publication number 900032, for descriptions of specific messages.

Aborting StorHouse Commands

Generally, commands that transfer files or display continuous output can be aborted. You may be able to abort a command while it is still executing, that is, before you receive the prompt (?) for the next command. Commands can be aborted as follows:

- From a UNIX terminal, hold the **C** key and press the **C** key.
- From an IBM MVS terminal, press the **k** key. On a 3270 terminal, press the **PA1** key.

If command processing has not begun, StorHouse aborts the command. If possible, the system is returned to its previous state. If command processing has begun, StorHouse completes the command.

2

Using StorHouse Command Language

Command Formats and Components

Command Descriptions

This chapter lists and describes StorHouse Command Language commands in alphabetical order. Each command description discusses:

- Command format
- Parameter and command modifiers, if applicable
- How to use the command
- Command examples.

In addition, each command description includes a summary table of privileges, access types, and defaults. Each table lists:

- Required command privileges
- Group, file, and account access requirements
- Default values for parameters and modifiers.

The text following the command summary table further explains the command components.

Access Types and Command Privileges

Various privileges allow you to bypass access restrictions and specific command privilege checks. The command descriptions do not describe all of the allowable privilege and access combinations, but the following general rules apply to all of the descriptions. Because ALLPRIVILEGE is both an access and command privilege, it is listed twice.

These general rules apply to all command descriptions:

- ALLPRIVILEGE command privilege gives you the equivalent of all command privileges.

- ALLPRIVILEGE access privilege gives you read, write, and delete access to any group or file without specifying passwords, as well as the equivalent of ANYACCOUNT access to any account.
- ANYACCOUNT access privilege gives you access to any account in order to create, remove, modify, or show account information.
- ANYGROUP access privilege gives you read, write, and delete access to any group without specifying group passwords.
- ANYFILE access privilege gives you read, write, and delete access to any file in an accessible group without specifying file passwords.
- SHOACCOUNT access privilege gives you access to any account for the purpose of showing account information. It does not allow you to change anything.
- SHOGROUP access privilege gives you the equivalent of read access to any group only for the purpose of displaying information.
- SHOFILE access privilege gives you the equivalent of read access to any file in an accessible group only for the purpose of displaying information.
- Where a command, parameter, or modifier requires one privilege or type of access, and a different parameter or modifier for the command requires another privilege or type of access, you must have all required privileges or types of access to execute the command.

Appendix D, “Access and Command Privileges” defines access and command privileges.

Summary Tables

Summary tables in the command descriptions abbreviate important information about the commands. Two examples of summary tables appear with explanations at the end of this section.

Special Codes

The summary tables use special codes to represent group and file access types:

- NONE or hyphen (-) = no access type required
- R = read access
- W = write access
- D = delete access

- ANYG = ANYGROUP privilege
- ANYF = ANYFILE privilege

If two codes are separated by a plus sign (+), both types of access are required.

The summary tables use the following codes to represent account access levels:

- NONE or hyphen (-) = no special access required
- SHOA = access for displaying account information (SHOACCOUNT or ANYACCOUNT privilege required)
- ANYA = access for displaying or modifying account information (ANYACCOUNT privilege required)

Examples

The following abbreviated versions of the SHOW ACCOUNT and PUT command summary tables illustrate how these tables are used. Summary tables consist of six columns as listed in the following table.

Table 3-1: Command Table Headings

Column #	Column Name	Lists
1	Command, Parameter, or Modifier	<ul style="list-style-type: none"> • Command • Command modifiers (indented one tab and preceded by a slash) • Parameters (indented one tab) • Parameter modifiers (indented two tabs and preceded by a slash) are listed below the parameter they can modify
2	Required Command Privilege	Required command privileges for the command, modifiers, and parameters
3	Required Group Access	Required group access types for the command, modifiers, and parameters
4	Required File Access	Required file access types for the command, modifiers, and parameters
5	Minimum Account Access	Minimum required account access type for the command, modifiers, and parameters
6	Default	Default values for modifiers and parameters

Example 1: SHOW ACCOUNT Command

Command Format: SHOW ACCOUNT <aid>

Table 3-2: SHOW ACCOUNT Command Format Summary Table

COMMAND FORMAT SUMMARY					
COMMAND, PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
SHOW ACCOUNT	SHOW or ACCOUNT	-	-	-	-
aid	-	-	-	-	Own account id
(own account)	-	-	-	-	(Default)
(any account)	-	-	-	SHOA	-
/BRIEF	-	-	-	-	/BRIEF
/DISABLED	-	-	-	-	-
/ENABLED	-	-	-	-	-
/FSET=...	-	-	-	-	-
/FULL	-	-	-	-	-
/GROUP=...	-	-	-	-	-
/LASTACCESS	-	-	-	-	-
/PRIVILEGE=...	-	-	-	-	-
/RIGHTS	-	-	-	-	-
/SINCE=...	-	-	-	-	-
/VSET=...	-	-	-	-	-

Table 3-2 indicates that you must have either SHOW or ACCOUNT privilege to execute SHOW ACCOUNT. (You do not need both.)

The command format indicates that an account identification code (aid) is optional. If you want information for your own account, which is the default account identification code, you need no special access privilege; however, if you specify any other account identification code, you must have SHOACCOUNT privilege. The ANYACCOUNT or ALLPRIVILEGE privileges also satisfy the access privilege requirements.

Example 2: PUT Command

Command Format: PUT filename

Table 3-3: PUT Command Format Summary Table

COMMAND FORMAT SUMMARY					
COMMAND, PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
PUT	PUT	-	-	-	-
/CONFIRM	-	-	-	-	-
/REPORT	-	-	-	-	/REPORT
filename	- +	W	W ¹	-	(Required)
/ASCII	-	-	-	-	-
/ATF=...	ATF	D	D	-	-
/BINARY	-	-	-	-	-
/DATA=...	-	-	-	-	-
/DELETE	-	-	2	-	-
/EDC=...	-	-	-	-	See text
/FSET=...	-	-	-	-	Current default
/GROUP=...	SETGROUP	W	-	-	Current default
/HOSTNAME=...	-	-	1	-	-
/LIMIT=...	DELETE	D	D	-	-
/LOCK	LOCK	-	-	-	-
/NEW	-	-	-	-	-
/NEWPASSWORDS=...	PASSWORD	D	D	-	/NEWP=::
/PASSWORDS=...	-	-	-	-	-
/RETENTION=...	-	-	-	-	DEFAULT
/SET=...	-	-	-	-	Current default
/VTF=...	VTF	D	D	-	-

1=Read Access to Host File
 2=Delete Access to Host file

To PUT a file to StorHouse, you must have PUT privilege. No additional privileges are required unless you specify a modifier requiring another privilege, such as /VTF, /ATF, or /NEWPASSWORDS.

PUT requires a file name as a parameter (there is no default file name). If a specified file already exists, you need write access to the StorHouse file and the access group in which the file is located. You also need read access to the host file. You need no other access types unless you want to use a modifier with additional access requirements, such as /VTF, /LIMIT, /ATF, and /NEWPASSWORDS.

If you do not have access to the file's group by default, /GROUP allows you to enter the necessary password(s) to obtain write and delete access to a password-protected group. The /PASSWORDS modifier allows you to enter the necessary password(s) for the file to obtain write and delete access to a password-protected file. ANYFILE, ANYGROUP, and ALLPRIVILEGE privileges can eliminate the need to enter file and/or group passwords.

In general, summary tables list default values only if they cause an additional action to occur or change the results of the command. Thus, if you do not specify an access group and passwords using /GROUP, the table indicates that the system uses your current default access group and rights. Likewise, the table indicates that the system returns a response by default with /REPORT; however, it does not list the default for /CONFIRM, which is /NOCONFIRM, because it does not cause an additional action or change the results of the command.

Command Groups by Function

The following table groups the StorHouse commands by their general functions.

Table 3-4: Command Groups by Function

Command	Description
Session Control and Information	
! (COMMENT)	Allows comments to be entered with commands
HELP	Displays descriptions of commands and general information
MESSAGE	Sends a message to the StorHouse operator or another user
SET USER	Changes session parameters and defaults
SHOW TIME	Displays the current date and time
SHOW USER	Displays current session parameters and defaults
SIGNOFF	Terminates user session
Account Management	
CREATE ACCOUNT	Creates an account and assigns account parameters
REMOVE ACCOUNT	Removes an account
SET ACCOUNT	Changes an existing account's parameters or password
SHOW ACCOUNT	Displays account parameters
File Access Group Management	
CREATE GROUP	Creates a file access group
REMOVE GROUP	Removes a file access group

Table 3-4: Command Groups by Function (continued)

Command	Description
SET GROUP	Changes an access group's passwords
SHOW GROUP	Displays access group parameters
File Management	
ARCHIVE	Copies primary files to archive volume sets
CREATE BACKUP	Copies primary files to backup file sets
CREATE FILE	Creates a new StorHouse file or file version for Virtual Record Access Manager (VRAM) use
CREATE PRIMARY	Copies a backup or archive file version into a primary volume set
DELETE	Moves a file to the deleted file directory
ENABLE	Enables a disabled StorHouse file version
GET	Copies a StorHouse file to a host
LOCK	Locks a file version for use by a single account
MIGRATE	Moves files between levels of storage
PURGE	Moves older StorHouse file versions to the deleted file directory
PUT	Copies a host file to StorHouse, creating a new file or file version
RELOCATE	Copies a file version to a new location and deletes the source copy
REPLICATE	Copies eligible files from one StorHouse system to another.
SET FILE	Changes parameters or passwords for a StorHouse file
SHOW FILE	Displays information for a file version
SHOW LOCKS	Displays information for explicitly locked file versions
STAGE	Queues a transfer of a specified file to the performance buffer
UNDELETE	Moves the most recently deleted version of a file from the deleted file directory back to its original directory
UNLOCK	Unlocks an explicitly locked file
VALIDATE FILE	Verifies that StorHouse can read the extents of a specific file
Storage Allocation and Control	
CATALOG DEVICE	Initiates device scan recovery for a level F device
CATALOG VSET	Adds file and file set information for uncataloged and partially cataloged volumes in a volume set to the directories
CREATE FSET	Creates a file set
CREATE VSET	Creates a volume set
ERASE VOLUME	Erases file data on a specific volume

Table 3-4: Command Groups by Function (continued)

Command	Description
ERASE VSET	Erases file data on a specific volume set
EXPORT	Exports a volume or a volume set
IMPORT	Imports a volume or a volume set
MIGRATE	Moves volumes between levels of storage
MOVE VOLUME	Moves a volume to a specified location
MOVE VSET	Moves all volumes in a volume set to a specified location
RECOVER VOLUME	Creates replacement volumes for disabled primary volumes and permanently removes the original volumes from the system
RETIRE VOLUME	Moves all file extents off one or more volumes, uncatalogs the volumes, and either exports or erases the volumes
SET FSET	Changes a file set's attributes
SET VOLUME	Changes a volume's attributes
SET VSET	Changes a volume set's attributes
SHOW FSET	Displays a file set's attributes
SHOW PARTITION	Displays information for a partition
SHOW VOLUME	Displays a volume's status
SHOW VSET	Displays a volume set's attributes
UNCATALOG VOLUME	Removes directory information for files on a specific volume
UNCATALOG VSET	Removes directory information for files and file sets on a specific volume set
VALIDATE VOLUME	Verifies that all extents on a volume can be read.
System Management	
BACKUP	Backs up new file extents to their primary file sets
CHECKPOINT	Copies recoverable system files to a checkpoint volume set
EXTRACT DIRECTORY	Copies StorHouse directory information to a set of StorHouse user files, called directory extraction files
MONITOR	Displays current system activity and performance information
NEWLOG	Closes current system logs and opens new ones
REMOVE FILE	Removes files from the deleted file directory
REMOVE SCHEDULE	Removes a scheduled command
RESTORE DIRECTORY	Reads extraction files containing directory information from a source StorHouse system and inserts the information into a destination StorHouse system

Table 3-4: Command Groups by Function (continued)

Command	Description
RUN	Runs procedures on StorHouse
SCHEDULE	Schedules a StorHouse command to be run
SERVICE	Sends a message to a specified StorHouse process
SET SYSTEM	Changes a system parameter
SHOW SCHEDULE	Displays the schedule of commands to be run
SHOW SYSTEM	Displays a system parameter
System Operation	
CONSOLE	Requests or sends replies to StorHouse operator console messages
DOWN DEVICE	Makes a StorHouse device unavailable for use by the system
INITIALIZE DEVICE	Uncatalogs all file extents on a level F device
RECOVER DEVICE	Initiates recovery of a storage device for which directory information was destroyed
RESERVE SYSTEM	Reserves the system for use by a single account
SET DEVICE	Sets or clears specific device mode settings for a library device drive
SHOW DEVICE	Displays device information
SHUTDOWN	Shuts down the StorHouse system
UP DEVICE	Initializes a StorHouse device and makes it available for use by the system
VALIDATE DEVICE	Verifies that StorHouse can read all file extents on a level F device
StorHouse/RM Operation	
EXECUTE STH_LOAD	Activates the StorHouse server data loader component. Once activated, the server data loader executes SQL statements and loads data into StorHouse database tables. You must have the optional StorHouse/RM software installed on StorHouse to run this command.

The commands are described in the following sections in alphabetical order.

!(COMMENT)

The COMMENT command allows you to enter comments as command lines or append comments to command lines.

Format

! <text>

COMMAND FORMAT SUMMARY					
COMMAND, PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
! ...	-	-	-	-	-
text	-	-	-	-	Null string

Description

You can add a comment to any command or enter a comment as a command. The exclamation point is the comment character for UNIX hosts. For IBM MVS hosts, use a solid vertical bar in place of an exclamation point. StorHouse ignores all text following the exclamation point or solid vertical bar.

Parameters

text Optional comment text.

- **FORMAT:** Character string

Character strings must consist of the printable ASCII characters. See “Valid Characters in StorHouse Commands” on page 2-4 for the list of special characters and “Using Special Symbols in StorHouse Commands” on page 2-5 for examples of character string specifications.

- **DEFAULT:** If you do not specify the parameter, the default is no text.

Examples

The following examples illustrate how to use the COMMENT command on UNIX hosts (!), and on IBM MVS hosts (|).

UNIX Example 1

To enter the comment DISPLAY ALL SCHEDULED EVENTS in a SHOW SCHEDULE command from a UNIX terminal, enter:

```
? SHOW SCHEDULE ! DISPLAY ALL SCHEDULED EVENTS
```

The exclamation point (!) indicates that the text following it is a comment. StorHouse ignores the exclamation point and the text, and executes SHOW SCHEDULE normally.

UNIX Example 2

To place the comment DISPLAY ALL SCHEDULED EVENTS on a line by itself from a UNIX terminal, enter:

```
? ! DISPLAY ALL SCHEDULED EVENTS  
? SHOW SCHEDULE
```

As in UNIX Example 1, StorHouse ignores the comment and executes the command normally.

IBM MVS Example 1

To enter the comment DISPLAY ALL SCHEDULED EVENTS in a SHOW SCHEDULE command from an IBM MVS terminal, enter:

```
? SHOW SCHEDULE | DISPLAY ALL SCHEDULED EVENTS
```

The vertical bar (|) indicates that the text following it is a comment. StorHouse ignores the vertical bar and the text, and executes the command normally.

IBM MVS Example 2

To place a comment on a line by itself from an IBM MVS terminal, enter:

```
? | DISPLAY ALL SCHEDULED EVENTS  
? SHOW SCHEDULE
```

As in IBM MVS Example 1, StorHouse ignores the comment and executes the command normally.

ARCHIVE

The ARCHIVE command backs up primary files to archive volume sets, generally in preparation for export.

Note: The ARCHIVE command performs incremental archiving unless you specify /NOINCREMENTAL. Prior to SM Release 4.1, ARCHIVE always created a complete new archive copy of the file version (in other words, a /NOINCREMENTAL archive).

Format

ARCHIVE filename

COMMAND FORMAT SUMMARY					
COMMAND, PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
ARCHIVE	SYSTEM	-	-	-	-
/CONFIRM	-	-	-	-	-
/INCREMENTAL	-	-	-	-	/INCREMENTAL
/RECORD	-	-	-	-	/RECORD
/REPORT	-	-	-	-	-
/TO_FSET=...	-	-	-	-	See text
/TO_VSET=...	-	-	-	-	See text
/WAIT	-	-	-	-	-
filename	-	-	-	-	(Required)
/FSET=...	-	-	-	-	/FSET= *
/GROUP=...	SETGROUP	-	-	-	/GROUP= *
/VERSION=...	-	-	-	-	/VERSION= *
/VSET=...	-	-	-	-	/VSET= *

Description

ARCHIVE copies files from a primary volume set to an archive volume set. It leaves the source copy intact. Any extents of the file in the performance buffer but not yet copied to their primary location are included in the archive file. If you specify /NOINCREMENTAL, the command always copies an *entire* primary file version, even if an earlier revision of the version was archived previously.

The command enters the archive copy into the archive directory. In the primary directory, it marks the file version as having a current archive, unless you specified /NORECORD. The primary and archive copies are identified by the same file

identifier, and the same group name and file name. An archive of a primary may have a different relative version number from the primary.

`/TO_VSET` specifies the archive volume set to which files will be archived. You *must* specify this modifier. `/TO_FSET` specifies the archive file set(s) to which the archives will be written.

ARCHIVE copies all selected files that have the BACKUP attribute and that are not marked as having a current archive. However, ARCHIVE does not copy files that are pending, disabled, or not complete. Files are archived in the order that requires the fewest volume mounts.

You can schedule the ARCHIVE command using the SCHEDULE command.

Parameters

`filename` Specifies the name of the file to be archived.

- **FORMAT:**
 - `filename`
 - `partial_filename*`
 - `*`

File names must be unique within an access group. StorHouse file names must contain 1 to 56 printable ASCII characters. At least one character must be non-blank. Lowercase characters are distinct from uppercase characters.

The wild card is valid only if you specify it as the last or only character in the name. You cannot specify a wild card in a file name in which you have also specified file passwords.

- **DEFAULT:** None; you must specify this parameter.

Command Modifiers

`/CONFIRM` Controls whether StorHouse asks you to confirm the command.

- **FORMAT:** `/CONFIRM` or `/NOCONFIRM`
- **DEFAULT:** `/NOCONFIRM`

When the system requests a confirmation, enter YES (also Y or YE) or NO (also N). If you press R or enter any characters other than those described as a YES response, StorHouse interprets them as NO.

If you are going to archive multiple files, the system will ask you to confirm each item. For multiple files, the system allows an END (also E or EN) response, which directs the system not to archive the current file and subsequent files.

/INCREMENTAL Indicates the type of file archiving to perform. **/INCREMENTAL** causes the command to relink a primary file version with any copies of its file extents that already exist in the destination archive volume set and file set and to create archive copies of any missing or new extents. **/NOINCREMENTAL** causes the command to remove any existing extents from the ARCHIVE directory before creating a whole new archive copy of the file version. If no extents of a file version exist in the destination volume set and file set in the ARCHIVE directory, **/INCREMENTAL** works like **/NOINCREMENTAL** and creates a complete new copy of the file version. For example, if the file version is new or a previous revision of the file version was archived to a different destination volume set and file set (such as those named JAN00 instead of FEB00), **/INCREMENTAL** creates a complete new copy of the file version.

/INCREMENTAL is most useful if you append to or update files or use **RESTORE DIRECTORY** to restore extracted directory information. These operations leave primary file versions marked as not archived even though valid copies of some or all extents exist in the ARCHIVE directory. For these cases, **/INCREMENTAL** eliminates unnecessary recopying of existing extents but may place new extents on different archive volume sides than existing extents.

Note: You can also use **SET FILE /RELINK=ARCHIVE** to mark a primary file version as archived if a complete archive copy already exists.

/NOINCREMENTAL is most useful if you always want to create a complete new copy of a file version. For example, if you archive file versions that have been archived before but need to be archived again because they have new extents, using **/NOINCREMENTAL** allows the system to try to place all of the extents of each new archive copy on a single volume side.

- **FORMAT:** **/INCREMENTAL** or **/NOINCREMENTAL**
- **DEFAULT:** **/INCREMENTAL**

/RECORD Indicates whether the command is to change the archive flag in the primary directory when it archives a file version. **/RECORD** instructs the command to mark each archived file version as having a current archive. **/NORECORD** instructs the command not to change the archive flag.

- **FORMAT:** **/RECORD** or **/NORECORD**
- **DEFAULT:** **/RECORD**

- /REPORT** Controls the generation of special text responses for the completion of each file copy. /REPORT instructs StorHouse to generate a text response. /NOREPORT instructs StorHouse not to generate a response.
- **FORMAT:** /REPORT or /NOREPORT
 - **DEFAULT:** /NOREPORT
- /TO_FSET** Specifies the archive file set or sets to which primary files are to be copied. If you specify a file set name, the command copies all selected files to the specified file set. The destination file set cannot be the performance buffer file set.
- If you specify a wild card, the command uses the name of each primary file's file set as the name of its archive file set.
- Note:** The destination file set must already exist. ARCHIVE does not create the destination file set.
- **FORMAT:** /TO_FSET=fset_name or /TO_FSET=*
 - **DEFAULT:** If you omit /TO_FSET, the default is the fset_name specified in the CREATE VSET /ARCFSET or SET VSET /ARCFSET command. If you did not specify an fset_name in either command, ARCHIVE uses the name of the primary file's file set as the name of its archive file set (/TO_FSET=*).
- /TO_VSET** Specifies the volume set in the archive directory to which primary files are to be copied. If you specify a volume set name, the command copies all selected files to the specified volume set.
- Note:** The destination volume set must already exist. ARCHIVE does not create the destination volume set.
- **FORMAT:** /TO_VSET=vset_name
 - **DEFAULT:** If you omit /TO_VSET, you must have specified a vset_name on either the CREATE VSET /ARCVSET or SET VSET /ARCVSET command. If you specify * in the filename and a file does not have a designated archive volume set, the command skips that file and continues processing.
- If you omit /TO_VSET, for each file being backed up, the command uses the default file set from each file's volume set.
- /WAIT** Instructs StorHouse to wait for a locked file to be unlocked before attempting to use it in the command execution. Without /WAIT, StorHouse returns an error status when it finds a locked file. If you specify more than one file, /WAIT causes the system to wait for each one to become available.

- FORMAT: /WAIT
- DEFAULT: No /WAIT modifier. StorHouse aborts the command or processing of an item if the specified file version is not available and archives the next one.

Parameter Modifiers

/FSET Specifies the file set name in a primary volume set from which files are to be archived.

- FORMAT: /FSET=fset_name or /FSET=*
- DEFAULT: If you omit /FSET, the default is /FSET=*
- RESTRICTIONS:
 - If you specify the /FSET modifier, you must also specify the /VSET modifier.
 - If you specify the performance buffer file set name, no files will be selected for archiving.

/GROUP Specifies a file access group name from which files are to be archived.

- FORMAT:
 - /GROUP=groupname
 - /GROUP=partial_groupname*
 - /GROUP=*
- DEFAULT: If you omit /GROUP, the default is all group names (/GROUP=*)
- PRIVILEGE: You must have SETGROUP privilege to specify all groups except your default group.

/VERSION Specifies the relative version number or numbers of files to be archived.

- FORMAT: /VERSION=version or /VERSION=*
- The value of version can range from 0 through -32767 for primary files.
- DEFAULT: If you omit /VERSION, the default is all versions (/VERSION=*)

/VSET Specifies the primary volume set name from which files are to be archived.

- FORMAT: /VSET=vset_name or /VSET=*
- DEFAULT: If you omit /VSET, the default is /VSET=*

- **RESTRICTIONS:** If you specify the /FSET modifier, you must also specify the /VSET modifier.

Examples

- To create a complete new archive copy of each version (/VERSION=*) of each file in the file set USERFSET, which is in the primary volume set USERVSET in the file access group USERGRP, and specify the destination of the archive copies as the file set AFSET1, which is in the archive volume set AVSET1, enter:

```
? ARCHIVE * /TO_FSET=AFSET1 /TO_VSET=AVSET1 /NOINCREMENTAL
/GROUP=USERGRP /FSET=USERFSET /VSET=USERVSET /VERSION=*
```

Entries for each copy are located in the archive directory. The source files are left intact. Each version of each archived file will be flagged in the primary directory as having an archive copy, because /RECORD is the default when omitted.

- Using the previous example, to archive only those file extents in USERFSET that were not previously archived (in other words, perform an incremental archive), enter:

```
? ARCHIVE * /TO_FSET=AFSET1 /TO_VSET=AVSET1
/GROUP=USERGRP /FSET=USERFSET /VSET=USERVSET /VERSION=*
```

The command performs an incremental archive by default if you omit the /INCREMENTAL command modifier.

- To create an archive copy of relative version 0 of the file USERFILE, which is located in your default file access group, and specify the destination volume set as AVSET2, enter:

```
? ARCHIVE USERFILE /TO_VSET=AVSET2 /VERSION=0
```

The primary copy is flagged as ARCHIVED. Because the command omits the names of the file set and volume set where the primary copy of USERFILE is located, the default is all file set names and all volume set names.

The destination volume set is specified as AVSET2. The default (*) is used for /TO_FSET. Therefore, the command uses the name of the file set where the source file is located as the name of the destination file set (unless you specified /ARCFSET). The destination file set must have been previously created using CREATE FSET. If a file set by that name does not exist in the archive volume set AVSET2, the command terminates with an error message.

BACKUP

The BACKUP command copies new file extents from the performance buffer to their primary file sets.

Format

BACKUP

COMMAND FORMAT SUMMARY					
COMMAND, PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
BACKUP	SYSTEM	-	-	-	-
/ALL	-	-	-	-	-
/DRIVES=...	-	-	-	-	/DRIVES=100P

Description

A new file extent is an extent that is located in the performance buffer and has not yet been copied to its primary file set. BACKUP copies all new file extents from the performance buffer to their primary file sets. The original extents remain in the performance buffer to allow faster access. This type of copy operation is called *write-back*. Write-back ensures that the primary copy of a new or revised file version is complete.

When the system writes back an extent, it also writes back all other new extents of the file version to keep the extents together on the destination volume. It copies the DF extents first so that they will appear on the volume earlier than the rest of the file. This order improves read performance for sequential media (for example, magnetic tape) because the system reads the DF extent first when opening a file.

StorHouse does not write back files that have been deleted but not removed. The system administrator should schedule the REMOVE FILE command to run frequently enough that deleted files do not cause problems in the performance buffer. Also, StorHouse does not immediately write back files that are software-disabled. However, you can use the /ALL modifier to write back all non-deleted files, including software-disabled files.

File extents are written back to their destination volume sets in the order that requires the fewest volume mounts.

The /DRIVES modifier lets you specify the number or the percentage of available drives in each library to use in the writeback process. This allows you to limit the impact of the writeback process on available library resources.

You can schedule the BACKUP command using the SCHEDULE command.

Command Modifiers

/ALL Specifies that all non-deleted file extents, including software-disabled extents, will be written back from the performance buffer to their primary file sets. (This modifier is primarily intended for use by SGI customer support personnel.)

- **FORMAT:** /ALL
- **DEFAULT:** No /ALL modifier. If you omit /ALL, the command writes back only non-deleted file extents that are software-enabled.

/DRIVES Specifies the number or percentage of available drives in each library to use in the writeback process. The actual number of drives used is rounded up to the nearest integer. This modifier allows you to limit the impact of the writeback process on available library resources. /DRIVES does not apply to level F drives.

Note: If a BACKUP command is already in progress and another BACKUP command is submitted with a different /DRIVES value, the new value for /DRIVES takes effect immediately (in other words, it applies to the backup operation already in progress).

- **FORMAT:** /DRIVES=n or /DRIVES=nP
 - For /DRIVES=nP, the value for n can range from 1 to 100 and must be followed by the letter P.
 - If n is greater than the number of available drives in the library, all available drives will be used. This is not an error condition.
- **DEFAULT:** /DRIVES=100P

Examples

- To copy to their primary file sets any file extents in the performance buffer that have not yet been copied to primary file sets, enter:

```
? BACKUP
```

The extents in the performance buffer are left intact. Extents that are part of locked or deleted but not removed files are not backed up. You must have SYSTEM privilege to execute this command.

- To copy to their primary file sets all non-deleted file extents in the performance buffer that have not yet been copied to primary file sets, including those extents that are software-disabled, enter:

? BACKUP /ALL

- To copy to their primary file sets any file extents in the performance buffer that have not yet been copied to primary file sets and to limit the writeback process to 50% of the drives in each library, enter:

? BACKUP /DRIVES=50P

- To copy to their primary file sets any file extents in the performance buffer that have not yet been copied to primary file sets and to limit the writeback process to 2 drives in each library, enter:

? BACKUP /DRIVES=2

CATALOG DEVICE

CATALOG DEVICE initiates device scan recovery for a level F device.

Format

CATALOG DEVICE did

COMMAND FORMAT SUMMARY					
COMMAND, PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
CATALOG DEVICE	ALLOCATION + SYSTEM	-	-	-	-
/CONFIRM	-	-	-	-	/CONFIRM
/REPORT	-	-	-	-	-
/WAIT	-	-	-	-	-
did	-	-	-	-	(Required)

Description

CATALOG DEVICE initiates device scan recovery for a level F device. It scans the level F device to be recovered to obtain information about the StorHouse files, extents, volume sets, and file sets on the device. Then it catalogs those entities.

One CATALOG DEVICE command does device scan recovery on one device.

Note the following:

- The device to be cataloged must be online and uncataloged.
- During the device scan, if the command encounters any files that are already in the StorHouse catalog, it skips them.
- Multiple CATALOG DEVICE commands can be executed concurrently as long as each specifies a different device.

Parameters

did Specifies the device identification code (did) of the level F device to be scanned.

- FORMAT: F{unit_number}

- DEFAULT: None; you must specify this parameter.

Command Modifiers

/CONFIRM Controls whether StorHouse asks you to confirm the command.

- FORMAT: /CONFIRM or /NOCONFIRM
- DEFAULT: /CONFIRM

When the system requests a confirmation, enter YES (also Y or YE) or NO (also N). If you press R or enter any characters other than those described as a YES response, StorHouse interprets them as NO.

/REPORT Controls the generation of special text responses for the completion of significant actions. /REPORT instructs StorHouse to generate a text response. /NOREPORT instructs StorHouse not to generate a text response. The report generated for this command only includes summary information (for example, the number of files added, modified, and skipped). It does not contain the names of all files that are processed.

- FORMAT: /REPORT or /NOREPORT
- DEFAULT: /NOREPORT

/WAIT Instructs StorHouse to wait for a locked file to be unlocked before attempting to use it in the command execution. Without /WAIT, StorHouse returns an error status if it encounters a locked file.

- FORMAT: /WAIT
- DEFAULT: No /WAIT modifier. StorHouse aborts the command or processing of an item if the specified file version is not available.

Examples

To initiate device scan recovery for a level F device with a device identification code of F01 and generate text responses, enter:

```
? CATALOG DEVICE F01 /REPORT
```


CATALOG VSET

The CATALOG VSET command adds file and file set information into a StorHouse directory from uncataloged volumes in a volume set. This command does not apply to level F volume sets.

Format

CATALOG VSET vset_name

COMMAND FORMAT SUMMARY					
COMMAND, PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
CATALOG VSET	ALLOCATION +SYSTEM	-	-	-	-
/CONFIRM	-	-	-	-	/CONFIRM
/REPORT	-	-	-	-	-
/WAIT	-	-	-	-	-
vset_name	-	-	-	-	(Required)

Description

CATALOG VSET catalogs file and file set information from volumes in the specified volume set into the directory associated with the volume set. The command selects all volumes that are in the uncataloged state. The directory can be the primary, backup, or archive directory. (The command skips volumes that are disabled or are in the cataloged, cataloging, erasing, or uncataloging state.)

You should execute a REMOVE FILE command prior to executing CATALOG VSET. This prevents a file that is being cataloged from conflicting with an instance of the same file version that has been deleted but not removed.

Free pool volume set names are not valid. Free pool volumes are available for use as soon as they are imported.

CATALOG VSET adds file versions into the directory in order of creation dates. The command makes the file version with the latest creation date the latest version (version 0). The latest version of a file determines its passwords.

If the command creates any new file versions in the primary directory, it marks them as not backed up and not archived. Directory information (such as file passwords) for primaries always takes precedence over directory information for backups and

archives. If a file is added in the archive or backup directory, the archived or backed up status of the corresponding primary file is unchanged.

If you do not specify /WAIT and one or more file extents cannot be cataloged because an existing file is implicitly or explicitly locked, the command leaves the status of the file's volume as "cataloging." You can uncatalog the volume and resubmit the CATALOG VSET command. This prevents you from accidentally accessing an older revision of a VRAM file because newer extents could not be cataloged.

A file is not cataloged if a file with the same group name, file name, and creation date already exists in the directory, unless the copy of the file being cataloged was written more recently than the existing copy. In other words, if you catalog a volume set containing multiple copies of the same file version, or additional copies of a file version that already exists in the same directory, StorHouse keeps only the most recently written copy.

Similarly, a file set's information is not cataloged if a file set with the same name already exists in the directory, unless the file set information being cataloged was written more recently than the existing information.

If the number of versions of a file grows to exceed a primary file's LIMIT attribute, the system deletes the oldest versions (previously existing or just cataloged) to reduce the number to the LIMIT value. After the CATALOG VSET command has completed, you can execute a REMOVE FILE command to remove deleted files.

StorHouse allows only one CATALOG VSET command to be executed at a time. Once entered, you cannot abort this command.

If the command is interrupted by a system failure and a volume is left in the cataloging state, it is necessary to uncatalog the volume before it can be cataloged again.

You can schedule the CATALOG VSET command using the SCHEDULE command.

Parameters

vset_name Specifies the volume set containing the volumes whose files and file sets are to be cataloged. The command locates any volumes in the volume set that are in the uncataloged state. It catalogs files and file sets on those volumes only.

- **FORMAT:** vset_name
- **DEFAULT:** None; you must specify this parameter.
- **RESTRICTIONS:**
 - Free pool volume set names and wild cards are not allowed.

- Do not specify a level F volume set name. If you specify a level F volume set name, no volumes are selected for cataloging.

Command Modifiers

/CONFIRM Controls whether StorHouse asks you to confirm the command.

- **FORMAT:** /CONFIRM or /NOCONFIRM
- **DEFAULT:** /CONFIRM

When the system requests a confirmation, enter YES (also Y or YE) or NO (also N). If you press **R** or enter any characters other than those described as a YES response, StorHouse interprets them as NO.

/REPORT Controls the generation of a special text response for each file or file set cataloged. /REPORT instructs StorHouse to generate a text response. /NOREPORT instructs StorHouse not to generate a text response.

- **FORMAT:** /REPORT or /NOREPORT
- **DEFAULT:** /NOREPORT

/WAIT Instructs StorHouse to wait for a locked file to be unlocked before attempting to use it in the command execution. Without /WAIT, StorHouse returns an error status upon finding that the file is locked. /WAIT causes the system to wait for each file being processed.

- **FORMAT:** /WAIT
- **DEFAULT:** No /WAIT modifier. StorHouse aborts the command or processing of an item if the specified file version is not available.

Example

To add directory information to StorHouse for the files and file sets in the volume set USERVSET, enter:

```
? CATALOG VSET USERVSET
```

If USERVSET belongs to the primary directory and if the command creates any new file versions, the new versions are not marked as backed up or archived.

CHECKPOINT

The CHECKPOINT command copies system files to a checkpoint volume set.

Format

CHECKPOINT

COMMAND FORMAT SUMMARY					
COMMAND, PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
CHECKPOINT	SYSTEM	-	-	-	-
/CONFIRM	-	-	-	-	/CONFIRM
/REPORT	-	-	-	-	-

Description

The CHECKPOINT command initiates a checkpoint operation, which takes a snapshot of the system files and writes them to a StorHouse volume set on optical disk or magnetic tape. The system administrator can enable the checkpoint capability by setting the system parameter `CHKP_ON` to `TRUE` or disable the capability by setting `CHKP_ON` to `FALSE`. If `CHKP_ON` is set to `TRUE` and the system administrator issues the CHECKPOINT command, checkpoint information will be written about system files. If `CHKP_ON` is set to `FALSE` and the system administrator issues the command, the system returns an error indicating that a checkpoint cannot be taken. Normal user operations can continue during a checkpoint.

Caution: If you disable the checkpoint capability and your data becomes corrupted, you may have to perform extended recovery procedures to recover any changes made since the checkpoint capability was disabled.

The system parameters `CHKP_FSET` and `CHKP_VSET` specify the checkpoint file set and volume set to be used, respectively. The `CHKP_ACCOUNT` and `CHKP_GROUP` system parameters specify the account and group into which StorHouse will write checkpoint information, respectively. StorHouse ensures that the latest checkpoint volume or volumes (individual checkpoint operations may span volumes) are always in the library device and not on a shelf because system checkpoint files may need to be written at any time. Thus, do not use the `MOVE VOLUME` or `MOVE VSET` command to move the checkpoint volumes out of the library device unless you are replacing them with new volumes.

Users with the proper authority can enter the SHOW SYSTEM command using the CHKP_TAKEN system parameter as the name variable to see the date and time of the last checkpoint, as follows:

```
SHOW SYSTEM CHKP_TAKEN
```

Systems that have not taken any checkpoints will return the following response:

```
CHKP_TAKEN= "NOT TAKEN"
```

To show the location of the last checkpoint (version 0 of all files in the CHKPOINT group, including file extent information), users with the proper authority can enter the following SHOW FILE command:

```
SHOW FILE * /GROUP=CHKPOINT /EXTENT
```

For more information on the SHOW SYSTEM and SHOW FILE commands, see page 3-375 and 3-337, respectively. For more information on the CHKP_TAKEN system parameter, see Appendix A, "System Parameter Descriptions."

If CHKP_ON is set to TRUE, StorHouse records changes to non-critical system files (such as account and group information) in a system log. Periodically, StorHouse automatically writes this log to the checkpoint volume set on optical disk or magnetic tape. This information is also written to the checkpoint volume set whenever the system administrator issues a CHECKPOINT command. If the system administrator wants to write changed account or group information *directly* to the checkpoint volume set *as it is updated* rather than to the system log, the administrator can set the CHKP_UPD_NOW system parameter to TRUE. If this parameter is set to FALSE, any new account and group information will be written to the checkpoint volume set either when StorHouse next writes the system log to the checkpoint volume set or during the next CHECKPOINT operation.

The system administrator can set the maximum number of checkpoints to maintain on backup media with the CHKP_LIMIT system parameter. If the number of checkpoints has reached the limit and StorHouse takes a new checkpoint, StorHouse automatically deletes the oldest checkpoint files and writes the new checkpoint files. (The system administrator should issue the REMOVE FILE command periodically to remove deleted files.)

The system administrator can invoke the CHECKPOINT command interactively or schedule it to run periodically or at a specific time using the SCHEDULE command.

Upon completion of a checkpoint (either successful or unsuccessful), the system sends a console message to the operator with the command results whether or not the system administrator has specified /REPORT, which returns a response message to the system administrator.

Command Modifiers

/CONFIRM Controls whether StorHouse asks you to confirm the command.

- **FORMAT:** /CONFIRM or /NOCONFIRM
- **DEFAULT:** /CONFIRM

When the system requests a confirmation, enter YES (also Y or YE) or NO (also N). If you press R or enter any characters other than those described as a YES response, StorHouse interprets them as NO.

/REPORT Controls the generation of a special text response for the command. /REPORT instructs StorHouse to generate a text response to the user. /NOREPORT instructs StorHouse not to generate a text response to the user.

- **FORMAT:** /REPORT or /NOREPORT
- **DEFAULT:** /NOREPORT

Note: The system always returns a console message to the operator with the command results regardless of whether the system administrator specified /REPORT.

Example

To initiate a checkpoint and request a text response, enter the following:

```
CHECKPOINT /REPORT
```

The system responds with the following message, which specifies the date (20000126, which equals January 26, 2000) and time (140201, which equals 2:02:01 pm) of the checkpoint, and the vid of the volume on which the checkpoint is located:

```
Successful checkpoint 20000126140201 is located on volume(s):  
OAD"2E2F59A5":A
```

CONSOLE

The CONSOLE command requests or sends a reply to a StorHouse operator console message.

Note: In order to execute CONSOLE /ALL or CONSOLE /READ, you must first execute the SET USER /CONSOLE command to enable console message queuing. You do not need to execute the SET USER /CONSOLE command to reply to operator messages with CONSOLE /REPLY. (See the SET USER /CONSOLE command on page 3-302.)

Format

CONSOLE

CONSOLE /REPLY=identification_number "text"

COMMAND FORMAT SUMMARY					
COMMAND, PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
CONSOLE	CONSOLE	-	-	-	-
/ALL	-	-	-	-	-
/READ=...	-	-	-	-	/READ=0
/REPLY=...	OPERATOR	-	-	-	-
text	-	-	-	-	See text

Description

CONSOLE requests a StorHouse operator console message or sends a reply to a console message. You must enable console message queuing before executing CONSOLE to request a message.

If you do not specify modifiers with CONSOLE, the next queued message, if any, displays. If you specify /ALL, the command displays all queued console messages. If you specify /READ, the command displays the next queued console message.

Informational and request messages appear in message queues. Request messages remain in the queue until they are satisfied.

StorHouse returns a console message in one of the following forms:

- A console request message requiring a response consists of an identification number followed by a space, a severity code in parentheses followed by a space, a status code followed by a space, and the message text. For application

programmers using the LSMSCI function, this message is accompanied by a successful completion status (XWOK). Then, the ? prompt displays.

For example, the following request message might be queued:

```
0001 (A) XROLDB LOAD-BLANK L00E00, LABEL VOLUME AS
OAB"25619AEF", REPLY 'C'-CONTINUE 'E'-ERROR
```

- A console message containing critical information, but not requiring a response, consists of the identification number 0 followed by a space, a severity code in parentheses followed by a space, a status code followed by a space, and the message text. For application programmers using the LSMSCI function, this message is accompanied by a successful completion status (XWOK). Then, the ? prompt displays.

An example of a critical message that does not require a response is:

```
0 (F) XROINFO, LxxDyy, FATAL DEVICE ERROR, Volume=vid
```

- A console message containing non-critical information consists of a severity code in parentheses followed by the message text; there is no identification number or status code. For application programmers using the LSMSCI function, this message is accompanied by a successful completion status (XWOK). Then, the ? prompt displays.

An example of a non-critical informational message is:

```
(I) XROINFO, L00D01, DEVICE IS UP
```

- A console message contains a "request satisfied" message. When a request has been satisfied, StorHouse removes the original request message from all user message queues and replaces it with the following message:

```
nnnn XSORSAT REQUEST SATISFIED
```

In the message, nnnn represents the identification number of the satisfied request and XSORSAT is the status code.

If no messages are queued when you enter CONSOLE /READ or CONSOLE /ALL, the command returns a successful completion status (XWOK) but no text. Then, the (?) prompt displays.

You can respond to a request message using the identification number of the request and the reply text. If the reply is accepted, the command returns a successful completion code (XWOK). Then, the (?) prompt displays.

If the specified identification number does not correspond to an outstanding request, the following message is returned:

```
No request matches last operator reply; reply discarded. Invalid Reply Number.
```


Parameters

- text Provides text to be sent when you specify /REPLY.
- **FORMAT:** The valid replies are defined for each operator console message in the *System Operator's Guide*.

Depending on the message, valid reply text can be C (for CONTINUE), E (for ERROR), L (for LIST), N (for NO MORE), or W (for WIPED).

When you satisfy a request, StorHouse removes the original request messages.
 - **DEFAULT:** If you omit text, the default is a null string.
 - **RESTRICTIONS:** If you omit /REPLY, text is ignored.

Command Modifiers

Note: The /ALL, /READ, and /REPLY modifiers are mutually exclusive.

/ALL Displays all operator messages queued for the user. Any messages that have been displayed before, but that still require a response, are included in the display. If no messages are queued, the command returns the ? prompt.

- **FORMAT:** /ALL
- **DEFAULT:** If you omit /ALL, it has no effect on the command.
- **RESTRICTIONS:** /ALL, /READ, and /REPLY are mutually exclusive.

You should execute CONSOLE /ALL periodically from the StorHouse console to ensure that the message queue is cleared.

/READ Displays the next operator message queued for you, the user. It also specifies a timeout for the request if no messages are queued.

If no messages are queued, the command waits for the specified number of seconds (the timeout). If a message is queued during the timeout, the command immediately displays it and returns a successful response (the ? prompt displays). If no message is queued during the timeout, the command returns a successful response at the end of the timeout but no text for display. The ? prompt displays.

- **FORMAT:** /READ=number_of_seconds or /READ

The number_of_seconds data field specifies a number of seconds and can include any integer from 0 to 2147483647, inclusive. Do not use commas.

- **DEFAULT:** If you omit this modifier, the default is /READ=0. /ALL and /REPLY override the default of /READ=0; however, do not specify /READ with /ALL or /REPLY.

If you specify the modifier without a timeout value (/READ), the default timeout is zero seconds.

- **RESTRICTIONS:** /ALL, /READ, and /REPLY are mutually exclusive.

/REPLY Indicates that the CONSOLE command is in response to a StorHouse operator request message. You must specify the reply text and the identification number of the request with /REPLY. The identification number of a request is shown at the beginning of the request message when it is displayed.

- **FORMAT:** /REPLY=identification_number

The identification number must be the same as the number shown at the beginning of the request message when it is displayed.

- **DEFAULT:** If you omit /REPLY, it has no effect on the command.
- **RESTRICTIONS:** /ALL, /READ, and /REPLY are mutually exclusive.

Note: Instead of using the /REPLY modifier to respond to an operator request message, you can enter just the message identification number and the reply text for a shorthand reply. An example is shown in the next section.

Examples

- To display all queued messages, including any messages that have been displayed before, but that still require responses, enter:

```
? CONSOLE /ALL
```

If no messages are queued, no text displays and the ? prompt appears.

- To display the next queued message, enter:

```
? CONSOLE
```

or

```
? CONSOLE /READ
```

If no message is queued, no text displays and the ? prompt appears.

- To specify a timeout value (in seconds) for /READ, enter:

```
? CONSOLE /READ=90
```

If a message is already in your queue, or if one is generated during the timeout period, it displays immediately. If no message is generated during the timeout period, no text displays and the ? prompt appears.

- To reply to operator message 0007 (leading zeros can be omitted), enter:

```
? CONSOLE /REPLY=7 C
```

or

```
? 7 C
```

The C response, the text portion of the reply, indicates CONTINUE.

CREATE ACCOUNT

The CREATE ACCOUNT command creates a user account.

Format

CREATE ACCOUNT aid <password>

COMMAND FORMAT SUMMARY					
COMMAND, PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
CREATE ACCOUNT	ACCOUNT	-	-	ANYA	-
/REPORT	-	-	-	-	-
aid	-	-	-	-	(Required)
/COPY=...	-	ANYG	-	-	-
/DISABLED	-	-	-	-	-
/FSET=...	-	-	-	-	/NOFSET
/GROUP=...	SETGROUP	-	-	-	/NOGROUP
/PRIVILEGE=...	-	-	-	-	No privileges
/RIGHTS=...	-	ANYG	-	-	/NORIGHTS
/VSET=...	-	-	-	-	/NOVSET
password	-	-	-	-	Null password

Description

CREATE ACCOUNT creates a new user account entry in the account file and enters the password and modifier information into the entry. You can mark the entry as disabled using /DISABLED so that users cannot sign on until it is enabled. (Also see SET ACCOUNT on page 3-269.) You can modify the account entry (for example, add privileges) or collect statistics while the account is disabled or enabled.

Parameters

aid Specifies the account identification code (aid) for the account being created. The aid must be unique, or the system will return an error status.

- **FORMAT:** aid

Account identification codes can contain 1 to 12 characters, consisting of the following characters: A-Z (uppercase), 0-9, _ (underscore), and \$ (dollar sign).

StorHouse always translates account identification codes to uppercase characters, even if they are enclosed in quotes.

- **DEFAULT:** None; you must specify this parameter.

password Specifies the password to be used for signing on to the new account.

- **FORMAT:** password

An account password can be null or contain up to 32 characters, consisting of the following ASCII characters: A-Z (uppercase), 0-9, \$ (dollar sign) and _ (underscore). You cannot specify wild cards. StorHouse always translates account passwords to uppercase characters, even if they are enclosed in quotes.

- **DEFAULT:** If you do not specify a password, the default is a null password.

Command Modifiers

/REPORT Controls the generation of special text responses for the completion of significant actions. **/REPORT** instructs StorHouse to generate a text response. **/NOREPORT** instructs StorHouse not to generate a text response.

- **FORMAT:** /REPORT or /NOREPORT
- **DEFAULT:** /NOREPORT

Parameter Modifiers

/COPY Specifies the account identification code (aid) of an existing account that contains default information for the account being created. The system copies all account information except the password to the new account, unless the user overrides selected items by specifying values in other modifiers. The system does not copy the password of the existing account; it always uses the password specified in this command (or its default).

- **FORMAT:** /COPY=aid

StorHouse translates the aid to uppercase characters, even if it is enclosed in quotes. You cannot use wild cards.

- **DEFAULT:** If you omit **/COPY**, the system does not use another account's information as the defaults for the account being created.
- **PRIVILEGE:** Requires ANYGROUP privilege.

- **ACCESS REQUIREMENTS:** Requires ANYGROUP privilege in order to bypass group passwords.

/DISABLED Prevents users from signing on to StorHouse with the specified account. You can modify account attributes (such as privileges) and obtain or modify account statistics while the account is disabled.

- **FORMAT:** /DISABLED
- **DEFAULT:** If you omit /DISABLED, the system enables the account upon creation.

/FSET Specifies the account's default file set name at signon. /NOFSET indicates that the account will not have a default file set name at signon.

- **FORMAT:**
 - /FSET=fset_name
 - /FSET
 - /NOFSET
- **DEFAULT:** If you omit /FSET, the default is /NOFSET. If you specify /FSET without a file set name, the default is your default file set.

/GROUP Specifies the account's default file access group name at signon. /NOGROUP indicates that the account will not have a default group upon signon.

- **FORMAT:** /GROUP=groupname or /NOGROUP
- **DEFAULT:** If you omit /GROUP, the default is /NOGROUP.
- **PRIVILEGE:** Requires SETGROUP privilege.

/PRIVILEGE Specifies one or more privileges to be granted or denied to an account. A privilege is granted to the account if the privilege is specified. A privilege is denied if it is preceded by the letters NO.

- **FORMAT:**
 - /PRIVILEGE=<NO>privilege
 - /PRIVILEGE=(<NO>privilege<,...>)

A string of two or more denied or granted privileges must be enclosed in parentheses and separated by commas.

If you specify EVERY, StorHouse grants all privileges except ALLPRIVILEGE. If you specify NOEVERY, StorHouse denies the account all privileges except ALLPRIVILEGE.

If you grant and deny the same privilege in the same command, either specifically or with EVERY, the last occurrence of the privilege in the command takes precedence. That is, if you first grant a privilege and then deny it in the same command, the account is denied that privilege.

- **DEFAULT:** If you omit /PRIVILEGE, the system assigns no privileges to the account.

If you specify /PRIVILEGE and do not specify one or more privileges (explicitly or with EVERY), the unspecified privileges are not granted to the account.

- **PRIVILEGE:** ANYACCOUNT privilege

/RIGHTS Specifies the account user's default access rights (access types) to the default group.

- **FORMAT:**
 - /RIGHTS=<<R><<W><<D>>>
 - /NORIGHTS

The letters to the right of the equal sign indicate the type of default group access being assigned to the account:

- R specifies read access.
- W specifies write access.
- D specifies delete access.
- A null in place of an R, W, or D assigns no default access for that type of access.
- **DEFAULT:** If you omit /RIGHTS, the default is /NORIGHTS.
- **RESTRICTIONS:** /RIGHTS is valid only if you specify a default group in this command.

/VSET Specifies the account's default volume set name at signon. /NOVSET indicates that the account will not have a default volume set at signon.

- **FORMAT:**
 - /VSET=vset_name
 - /VSET
 - /NOVSET
- **DEFAULT:** If you omit /VSET, the default is /NOVSET. If you specify /VSET without a volume set name, the default is your default volume set.

Examples

- To create an account with an account identification code (aid) of USER and a password of PASSWD; set USER's default file set and volume set to USERFSET and USERVSET, respectively; set USER's default file access group to USERGRP; and assign USER all privileges (PRIV=ALLPRIVILEGE) as well as read, write, and delete access to USER's default access group, USERGRP, enter:

```
? CREATE ACCOUNT USER PASSWD /FSET=USERFSET
/VSET=USERVSET /GROUP=USERGRP /PRIV=ALLPRIVILEGE
/RIGHTS=R:W:D
```

- To create an account with the account identification code of USER1 and a password of PASSWD1; set its default file set and volume set to USERFSET and USERVSET, respectively; set USER1's default file access group to USERGRP; give USER1 every privilege except ALLPRIVILEGE, ANYGROUP, and ANYACCOUNT; and assign USER1 READ access to its default access group (USERGRP) but allow it to read any file in the group (even those protected by read passwords because EVERY gives it ANYFILE privilege), enter:

```
? CREATE ACCOUNT USER1 PASSWD1 /FSET=USERFSET
/VSET=USERVSET /GROUP=USERGRP
/PRIV=(EVERY,NOANYGROUP,NOANYACCOUNT) /RIGHTS=R
```

The privileges must be enclosed in parentheses when specified as a list.

- To create an account called USER2 with a password of PASSWD2 and give USER2 the same default information, excluding password, assigned to the account USER1, enter:

```
? CREATE ACCOUNT USER2 PASSWD2 /COPY=USER1
```

This is the equivalent of entering the command used to create USER1 in the previous example but with USER2 in place of USER1 and PASSWD2 in place of PASSWD1. If you omitted PASSWD2 in this example, the command would assign a null password to USER2.

- To create an account called USER3 with a password of PASSWD3 and give USER3 the same default information (excluding password) assigned to the account USER2, enter:

```
? CREATE ACCOUNT USER3 PASSWD3 /COPY=USER2 /DISABLED
```

/DISABLED makes the account USER3 unavailable for signon. /DISABLED is useful when creating an account that will not be used immediately, such as a future employee's account.

To make account USER3 available immediately, enter the following command:

```
? SET ACCOUNT USER3 /ENABLED
```


CREATE BACKUP

The CREATE BACKUP command creates copies of primary files in backup file sets.

Note: The CREATE BACKUP command performs incremental backups unless you specify /NOINCREMENTAL. Prior to SM Release 4.1, CREATE BACKUP always created a complete new backup copy of the file version (in other words, a /NOINCREMENTAL backup).

Format

CREATE BACKUP filename

COMMAND FORMAT SUMMARY					
COMMAND, PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
CREATE BACKUP	SYSTEM	-	-	-	-
/CONFIRM	-	-	-	-	-
/INCREMENTAL	-	-	-	-	/INCREMENTAL
/REPORT	-	-	-	-	-
/TO_FSET=...	-	-	-	-	See text
/TO_VSET=...	-	-	-	-	See text
/WAIT	-	-	-	-	-
filename	-	-	-	-	(Required)
/FSET=...	-	-	-	-	/FSET=*
/GROUP=...	SETGROUP	-	-	-	/GROUP= *
/VERSION=...	-	-	-	-	/VERSION= *
/VSET=...	-	-	-	-	/VSET=*

Description

CREATE BACKUP creates copies of primary file versions in backup volume sets, leaving the primary copies intact. Any extents of the file in the performance buffer but not yet copied to their primary location are included in the backup file.

The command enters the backup into the backup directory. In the primary directory, it marks the file version as having a current backup and records the date and time. The primary and backup copies are identified by the same file identifier and the same group name and file name. A backup of a primary may have a different relative version number from the primary.

`/TO_VSET` specifies the backup volume set to which files will be backed up.
`/TO_FSET` specifies the backup file set or sets to which the backups will be written.

The command creates backup copies of all selected files that have the `BACKUP` attribute and are not marked as having a current backup. However, `BACKUP` does not copy files that are pending, disabled, or not complete.

If `/NOINCREMENTAL` is selected, the command always copies an entire primary file version, even if a previous revision of the version was backed up already. The backup copies are created in the order that requires the fewest volume mounts.

You can schedule the `CREATE BACKUP` command using the `SCHEDULE` command.

Parameters

`filename` Specifies the name of a file to be backed up to a backup file set.

- `FORMAT:`
 - `filename`
 - `partial_filename*`
 - `*`

The wild card is valid only if you specify it as the last or only character in the name.

- `DEFAULT:` None; you must specify this parameter.

Command Modifiers

`/CONFIRM` Controls whether StorHouse asks you to confirm the command.

- `FORMAT:` `/CONFIRM` or `/NOCONFIRM`
- `DEFAULT:` `/NOCONFIRM`

When the system requests a confirmation, enter `YES` (also `Y` or `YE`) or `NO` (also `N`). If you press `R` or enter any characters other than those described as a `YES` response, StorHouse interprets them as `NO`.

If multiple backups are to be created, the system requests confirmation for each item and allows an `END` (also `E` or `EN`) response. `END` directs the system not to perform the command for the current file and subsequent files.

- /INCREMENTAL** Indicates the type of file backups to perform. **/INCREMENTAL** causes the command to relink a primary file version with any copies of its file extents that already exist in the destination backup volume set and file set and to create backup copies of any missing or new extents. **/NOINCREMENTAL** causes the command to remove any existing extents from the BACKUP directory before creating a whole new backup copy of the file version. If no extents of a file version exist in the destination volume set and file set in the BACKUP directory, **/INCREMENTAL** works like **/NOINCREMENTAL** and creates a complete new copy of the file version. For example, if the file version is new or a previous revision of the file version was backed up to a different destination volume set or file set (such as those named JAN00 instead of FEB00), **/INCREMENTAL** creates a complete new copy of the file version.
- /INCREMENTAL** is most useful if you append to or update files, export and then import a primary or backup volume or volume set, or use **RESTORE DIRECTORY** to restore extracted directory information. These operations leave primary file versions marked as not backed up even though valid copies of some or all extents exist in the BACKUP directory. For these cases, **/INCREMENTAL** eliminates unnecessary recopying of existing extents but may place new extents on different backup volume sides than existing extents.
- Note:** You can also use **SET FILE /RELINK=BACKUP** to mark a primary file version as backed up if a complete backup copy already exists.
- /NOINCREMENTAL** is most useful if you always want to create a complete new copy of a file version. For example, if you backup file versions that have been backed up before but need to be backed up again because they have new extents, using **/NOINCREMENTAL** allows the system to try to place all of the extents of each new backup copy on a single volume side.
- **FORMAT:** **/INCREMENTAL** or **/NOINCREMENTAL**
 - **DEFAULT:** **/INCREMENTAL**
- /REPORT** Controls the generation of special text responses for the completion of each file backup. **/REPORT** instructs StorHouse to generate a text response. **/NOREPORT** instructs StorHouse not to generate a text response.
- **FORMAT:** **/REPORT** or **/NOREPORT**
 - **DEFAULT:** **/NOREPORT**
- /TO_FSET** Specifies the backup file set or sets to which primary files are to be copied. **/TO_VSET** specifies the volume set containing the file set or sets. If you specify a file set name, the command backs up all selected files to the specified file set. The destination file set cannot be the performance buffer file set.

If you specify a wild card, the command uses the name of the primary file's file set as the name of its backup file set. This wild card option is most useful when there is a one-for-one correspondence between primary volume sets and backup volume sets, or all primary file sets in StorHouse are given unique names.

Note: The destination file set must already exist. CREATE BACKUP does not create the destination file set.

- **FORMAT:** /TO_FSET=fset_name or /TO_FSET=*
- **DEFAULT:** If you omit /TO_FSET, the default is the fset_name specified in the CREATE VSET /BKPFSET or SET VSET /BKPFSET command. If you did not specify an fset_name in either command, CREATE BACKUP uses the name of the primary file's file set as the name of its backup file set (/TO_FSET=*).

/TO_VSET Specifies the volume set in the backup directory to which primary files are to be copied. In the primary directory, the command marks the file as having a current backup and records the date and time.

Note: The destination volume set must already exist. CREATE BACKUP does not create the destination volume set.

- **FORMAT:** /TO_VSET=vset_name
- **DEFAULT:** If you omit /TO_VSET, you must have specified a vset_name on either the CREATE VSET /BKPVSET or SET VSET /BKPVSET command. If you specify * in the filename and a file does not have a designated backup volume set, the command skips that file and continues processing.

If you omit /TO_VSET, for each file being backed up, the command uses the default file set from each file's volume set.

/WAIT Instructs StorHouse to wait for a locked file to be unlocked before attempting to use it in the command execution. Without /WAIT, StorHouse returns an error status upon finding that the file is locked. If more than one file is being backed up, /WAIT causes the system to wait for each one to become available.

- **FORMAT:** /WAIT
- **DEFAULT:** No /WAIT modifier. StorHouse aborts the command or processing of an item if the specified file version is not available.

Parameter Modifiers

- /FSET** Specifies the file set name in the primary volume set from which files are to be backed up.
- **FORMAT:** /FSET=fset_name or /FSET=*
 - **DEFAULT:** If you omit /FSET, the default is all file set names /FSET=*
 - **RESTRICTIONS:**
 - If you specify the /FSET modifier, you must also specify the /VSET modifier.
 - If you specify the performance buffer file set name, no files will be selected for backup.
- /GROUP** Specifies the file access group name from which files are to be backed up.
- **FORMAT:**
 - /GROUP=groupname
 - /GROUP=partial_groupname*
 - /GROUP=*
 - **DEFAULT:** If you omit /GROUP, the default is all group names (/GROUP=*)
 - **PRIVILEGE:** You must have SETGROUP privilege to specify any group except your default group.
- /VERSION** Specifies the relative version number of files to be backed up.
- **FORMAT:** /VERSION=version or /VERSION=*
 - **DEFAULT:** If you omit /VERSION, the default is all versions (/VERSION=*)
- /VSET** Specifies the primary volume set name from which files are to be backed up.
- **FORMAT:** /VSET=vset_name or /VSET=*
 - **DEFAULT:** If you omit /VSET, the default is /VSET=*
 - **RESTRICTIONS:** If you specify the /FSET modifier, you must also specify the /VSET modifier.

Examples

- To create a complete new backup copy of all versions (the default) of file USERFILE from all groups, primary file sets, and primary volume sets in StorHouse and create the backup copies in file set BFSET2, which is in the volume set BVSET2, enter:

```
? CREATE BACKUP USERFILE /TO_VSET=BVSET2 /TO_FSET=BFSET2 /NOINCREMENTAL
```

The source copies of USERFILE are left intact. They are flagged as backed up in the primary directory.

- Using the previous example, to back up only those file extents of file USERFILE that were not previously backed up, enter:

```
? CREATE BACKUP USERFILE /TO_VSET=BVSET2 /TO_FSET=BFSET2
```

The command performs an incremental backup by default if you omit the /INCREMENTAL command modifier.

- To create a complete new backup copy of relative version 0, the most recent version, of USERFILE to file set BFSET2 in volume set BVSET2, enter:

```
? CREATE BACKUP USERFILE /VERSION=0 /TO_VSET=BVSET2 /TO_FSET=BFSET2 /NOINCREMENTAL
```

- To create complete new backup copies of all versions of USERFILE that are located in the file set F1, which is in the volume set V1, in the file access group USERGRP to file set BF1 in volume set BV1, enter:

```
? CREATE BACKUP USERFILE /FSET=F1 /VSET=V1 /GROUP=USERGRP /TO_VSET=BV1 /TO_FSET=BF1 /NOINCREMENTAL
```

CREATE FILE

The CREATE FILE command creates a new VRAM file or file version.

Format

CREATE FILE filename

COMMAND FORMAT SUMMARY					
COMMAND, PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
CREATE FILE	RECORD	-	-	-	-
/REPORT	-	-	-	-	-
filename	-	W	-	-	(Required)
/ASCII	-	-	-	-	Binary format
/ATF=...	ATF	D	-	-	See text
/CACHE=...	-	-	-	-	/CACHE=0
/DIRECT	-	-	-	-	-
/EDC	-	-	-	-	See text
/EXTERNAL	-	-	-	-	No external keys
/FSET=...	-	-	-	-	Current default
/GROUP=...	SETGROUP	W	-	-	Current default
/LIMIT=...	DELETE	D	-	-	See text
/NEWPASSWORDS=...	PASSWORD	D	D	-	See text
/PASSWORDS=...	-	-	-	-	-
/REPLACE=...	DELETE	D	D	-	-
/RETENTION=...	-	-	-	-	DEFAULT
/SIZE=...	-	-	-	-	(Required)
/TYPE=...	-	-	-	-	/TYPE=RECORD
/VSET=...	-	-	-	-	Current default
/VTF=...	VTF	D	-	-	See text

Description

CREATE FILE creates the specified file or a new version of the file in StorHouse. If you specify KEYED or KEYSEQUENTIAL as the value of /TYPE, StorHouse asks you to enter key definitions. This procedure is described in the section “Key-Definition Mode,” presented later in this command description on page 3-61.

The `/SIZE` modifier is required. It specifies the maximum number of bytes needed to store the largest extent set created in an append operation. An *extent set* consists of a data extent, a DF extent, and for KEYED files, a K extent. If a file is not checkpointed, it has one extent set created from OPEN to CLOSE. If a file is checkpointed, a new extent set is created each time a checkpoint is issued.

If the file is not checkpointed, the amount of space specified by `/SIZE` is allocated to store the extent set that is written from OPEN to CLOSE. If the file is checkpointed, the amount of space specified by `/SIZE` is allocated when the file is opened and *each time* a CHECKPOINT is taken.

The section “Estimating a Value for `/SIZE`” is presented later in this command description on page 3-55 to help you determine a suitable size.

When you write records into the file, the system places the records in the performance buffer and allows the backup function to copy the records to their primary file set (the file set specified by `/VSET` and `/FSET`) unless the file is created in a level F volume set and file set. If it is created in a level F volume set, the performance buffer is not used. If you specify `/DIRECT`, the system transfers the records directly to the primary file set, bypassing the performance buffer. The system writes file updates to the file set’s update space, if available.

Parameters

filename Specifies the StorHouse name of the VRAM file version to be created.

- **FORMAT:** filename

File names must be unique within an access group. The StorHouse file name must contain 1 to 56 printable ASCII characters. At least one character must be non-blank. StorHouse translates lowercase letters to uppercase letters and compresses multiple consecutive spaces to a single space unless they are enclosed in quotes. File names containing special characters (defined in Chapter 2, “Using StorHouse Command Language”) must be enclosed in quotes, unless the characters are any of the following:

[] : \$. ; _

You can use the quote symbol (") in the file name as long as you enclose the name in quotes and you place two quotes (" ") wherever a single quote (") is to appear.

- **DEFAULT:** None; you must specify this parameter.
- **ACCESS REQUIREMENTS:** Write access to the file’s group.

Command Modifier

/REPORT Controls the generation of a special text response for the completion of the command. The text includes the file identifier (fid) of the new file or file version created.

/REPORT instructs StorHouse to generate a text response. **/NOREPORT** instructs StorHouse not to generate a text response.

- **FORMAT:** **/REPORT** or **/NOREPORT**
- **DEFAULT:** **/NOREPORT**

Parameter Modifiers

/ASCII Causes the host interface to translate a host file's data from the host's native character set into ASCII characters. The host interface formats the translated data into a transportable ASCII character-stream file format while transferring the file to StorHouse.

- **FORMAT:** **/ASCII**
- **DEFAULT:** If you omit **/ASCII**, StorHouse formats the file data into transportable binary bit-stream format.
- **RESTRICTIONS:** Do not specify **/ASCII** with a different format indicator, such as **/BINARY**, or with files that cannot be translated into ASCII characters.
- **HOST DEPENDENCIES:** The native UNIX character set is ASCII, so no character translation is necessary.

The IBM MVS Callable Interface translates data between EBCDIC characters and ASCII characters.

/ATF Specifies a value for the ATF (Access Time Factor) attribute for a file version. The ATF attribute indicates the importance of access time for the file. Setting an ATF value does not initiate a file transfer directly, but it may cause the file to be migrated in a subsequent migration.

- **FORMAT:** **/ATF={1,2,3}**

A value of 1 indicates that a short access time for the file is very important; 2 indicates that access time is moderately important; 3 indicates that it is minimally important. The **MIGRATE** function migrates files off of the performance buffer, beginning with files with the largest ATF values.

- **DEFAULT:** If you omit /ATF when creating a new file version, the default is the current value of the ATF system parameter.

/CACHE Specifies the number of sequential records that VRAM will cache for a READ-SEQUENTIAL, READ-RECORD, or READ-KEYED function for this file when it is opened with an access mode of READ or UPDATE and an access method of RECORD and/or KEYED. The system can use this cache to optimize subsequent reads. VRAM caches $n-1$ records preceding the current record through n records following the current record; in other words, VRAM caches twice the specified number of records including the current record. (This assumes that there is enough cache memory available to accommodate the total number of records.)

- **FORMAT:** /CACHE=number_of_records

The number of records can range from 0 to 65,535; however, StorHouse limits the number of records it caches to a number less than or equal to the number of bytes specified by the VRAM_CACHE_MAX system parameter.

Note that VRAM caches records preceding the current record up to and including the current record only if the records already reside in memory and begin in the currently loaded frame.

- **DEFAULT:** If you omit /CACHE, the default value is /CACHE=0 (no cache).

/DIRECT Indicates that when you write data records to the file, the system is to write the records directly to the primary file set (specified by /VSET and /FSET) specified in this command.

- **FORMAT:** /DIRECT
- **DEFAULT:** If you omit /DIRECT, the system writes the records to the performance buffer and allows the backup function to copy the data to the specified primary file set.
- **PRIVILEGE:** None.
- **RESTRICTIONS:** This modifier has the same function as /VTF=DIRECT. If you specify /DIRECT, the system ignores /VTF.

/EDC Controls the generation of error detection codes by the host interface during data transfer to StorHouse.

- **FORMAT:** /EDC or /NOEDC

If you specify /EDC when executing CREATE FILE, the host interface will generate or check error detection codes when the file is transferred to or from StorHouse. If you specify /NOEDC, the host interface will not generate or check error detection codes.

- **DEFAULT:** If you omit /EDC, the default is given by the EDC system parameter. If the value of the parameter is TRUE, the default is /EDC. If the value of the parameter is FALSE, the default is /NOEDC.
- /EXTERNAL** Indicates that you will define external keys—key data provided in special records that are not a part of the file's data records. See the section, “Key-Definition Mode,” presented later in this command description on page 3-61.
- Note:** External key values cannot be changed if file records are updated. Also, records with duplicate external key values cannot be distinguished unless the record data contains information that you can use for this purpose.
- **FORMAT:** /EXTERNAL
 - **DEFAULT:** If you do not specify /EXTERNAL for a KEYED file, the system assumes that the keys will be internal to the user data records.
 - **RESTRICTIONS:** /EXTERNAL is valid only if you also specify /TYPE=KEYED.
- /FSET** Specifies the primary file set for the file. The performance buffer file set is not allowed. The specified file set must exist.
- If /FSET and /VSET specify or default to a level F file set and volume set, StorHouse does not use the performance buffer when you write data into the file. Data is written directly to the primary file set and volume set on level F, regardless of the value of the /VTF or /DIRECT modifier, if specified.
- **FORMAT:** /FSET=fset_name
 - **RESTRICTIONS:**
 - You cannot use a wild card.
 - Do not specify the performance buffer file set name.
- /GROUP** Specifies a file access group name and, optionally, group passwords. The specified group must exist.
- **FORMAT:**
 - /GROUP=groupname<::writepw>
 - /GROUP=groupname
 - **FORMAT RESTRICTIONS:** Wild cards are not allowed in the group name.
 - **ACCESS REQUIREMENTS:** You must have write access to the group. Also, you must specify the group's write password unless:
 - The group is not protected by a write password.
 - Your privilege bypasses write access password checks.

- Your default access to the group includes write access.

If you enter parameter modifiers that require delete access to the group, you must also have delete access to the group.

- **DEFAULT:**
 - If you omit /GROUP, the default is your current default group and default access rights.
 - If you specify the current default group name and omit the write password, the defaults for your group access rights apply.
 - If you specify a group name that is not the current default group and omit the write password, the write password defaults to null.
- **PRIVILEGE:** SETGROUP is required to specify any group except your default group.

/LIMIT Specifies a value for the LIMIT attribute for a file.

- **FORMAT:** /LIMIT=maximum_versions

The value of maximum_versions can range from 1 through 32768.

- **DEFAULT:** If you omit /LIMIT and this is a new file, the default limit is specified by the LIMIT system parameter. If this is a new version of an existing file, the default is the limit for the existing file.
- **PRIVILEGE:** DELETE privilege.

/NEWPASSWORDS Assigns file access passwords to the file.

Note: You cannot obtain access to the file by specifying /NEWPASSWORDS (see the next modifier /PASSWORDS).

- **FORMAT:**
 - /NEWPASSWORDS=<readpw>:<writepw>:<deletepw>
 - /NEWPASSWORDS=<readpw>:<writepw>
 - /NEWPASSWORDS=readpw
 - /NONEWPASSWORDS

Specifying /NONEWPASSWORDS is equivalent to specifying /NEWPASSWORDS with null read, write, and delete passwords.

Passwords must be null or contain 1 to 8 characters, consisting of the following ASCII characters: A-Z (uppercase), 0-9, _ (underscore), and \$ (dollar sign).

StorHouse always translates passwords to uppercase characters, even if they are enclosed in quotes.

- **DEFAULT:** If you do not specify `/NEWPASSWORDS` and the file already exists, the system retains the existing passwords, if any. If you do not specify `/NEWPASSWORDS` and the file does not exist, the system assigns null passwords to it.

If you specify `/NEWPASSWORDS` but do not specify one or more passwords, the system assigns a null password for each unspecified password.

- **ACCESS REQUIREMENTS:** You must have delete access to the file and group and `PASSWORD` privileges.

`/PASSWORDS` Specifies passwords to gain access to an existing file protected by passwords. Specify a delete password to change file attributes. Specify a write password to create a new version of an existing file. If your privilege bypasses the access password checks, you do not have to specify a password.

If the file does not already exist, StorHouse ignores `/PASSWORDS`.

`/PASSWORDS` must be used in conjunction with `/REPLACE`.

- **FORMAT:**
 - `/PASSWORDS=<readpw>:<writepw>:<deletepw>`
 - `/PASSWORDS=<readpw>:writepw`
 - `/PASSWORDS=readpw`

A file password can be null or contain 1 to 8 characters, and can consist of the following characters: A-Z (uppercase), 0-9, _ (underscore), and \$ (dollar sign). StorHouse always translates passwords to uppercase characters, even if they are enclosed in quotes.

- **DEFAULT:** If you omit `/PASSWORDS`, the passwords default to nulls.

`/REPLACE` Indicates that after creating a new version of the file, the system will delete all older versions. If no file of the same name exists, StorHouse ignores this modifier. If a file of the same name exists, StorHouse verifies that you have the required access to the file and that the file is not retained before deleting it. If the existing file is retained, the `CREATE FILE/REPLACE` operation fails.

After StorHouse deletes the file, it does not retain the old passwords and file attributes. You must specify new passwords or attributes on the `CREATE FILE` statement.

- **FORMAT:** `/REPLACE`

- **DEFAULT:** If you omit `/REPLACE` and a file of the same name already exists in the directory, the system does not delete the existing version.
- **PRIVILEGE:** DELETE privilege
- **ACCESS REQUIREMENTS:** If a file with the same group and file names already exists, you must obtain delete access to the group and file.

`/RETENTION` Specifies the retention attribute (retention period) for the file being created.

- **FORMAT:**

Option	Description
<code>/RETENTION=DEFAULT</code>	Sets the retention period to the default value.
<code>/RETENTION=number_of_days</code>	<p>Sets the retention period to the specified number of days. The retention period ends when the current date is beyond the file's last modification date plus the specified retention value.</p> <p>A value of 0 indicates no retention period (same as specifying ZERO).</p> <p>Example: <code>/RETENTION=3</code></p> <p>In this example, the retention period is 3 days. The retention period for a file that was last modified at 11 p.m. on December 12 expires at 11 p.m. on December 15.</p>
<code>/RETENTION=ZERO</code>	Sets no retention period, which indicates the file may be deleted.
<code>/RETENTION=FOREVER</code>	Sets an infinite retention period, which indicates the file may never be deleted.

- **DEFAULT:** If you omit `/RETENTION` or specify `/RETENTION=DEFAULT`, StorHouse determines the file's default retention attribute as follows:
 - If the file's resident file set has a retention attribute equal to FOREVER, ZERO, or a specified number of days, the file set retention attribute determines the default file retention attribute.
 - If the file's resident file set has a retention attribute of DEFAULT, the `RETENTION_MODE` system parameter determines the default file retention attribute. If `RETENTION_MODE` is set to BASIC, the default file retention is ZERO. If `RETENTION_MODE` is set to STRICT, the default file retention is FOREVER.
- **RESTRICTIONS:** None.

/SIZE Specifies the number of bytes of storage space to allocate for the file whenever the file is opened for an append operation and whenever a checkpoint is issued. The value must contain enough space for the largest extent set that is written. This extent set includes a data extent, a DF extent, and for KEYED files, a K extent.

- If the file is not checkpointed, /SIZE specifies the space required to store the extent set that is written from OPEN to CLOSE.
- If the file is checkpointed, the space specified by /SIZE is allocated when the file is opened and *each time* a CHECKPOINT is taken.

Note: The largest value that you can specify for /SIZE is 2G. Do not assign a value for /SIZE greater than the size of the volume (or performance buffer) that will contain the extent set. Otherwise, CREATE FILE returns an error.

If the system cannot allocate enough space when the file is opened, it rejects the open. If the system cannot allocate enough space after a checkpoint, it rejects the next write. After a file has been closed or checkpointed, StorHouse returns any unused file storage space to the file set as free space.

For updates, StorHouse does not use the /SIZE value. It automatically allocates space for each extent separately. It allocates as much space as required, up to the file set LIMIT.

Caution: After you have used CREATE FILE to create the file, you cannot change the value of /SIZE.

See “Estimating a Value for /SIZE” on page 3-55 about estimating values for /SIZE.

- **FORMAT:** /SIZE=number_of_bytes

The number_of_bytes value can be specified as n, nK, nM, or nG.

The letter n represents a numeric field. The value of n can range from 0 up to 2000000000. (Do not include commas when specifying a number with more than three digits.) K indicates that the number is in 1,000-byte units; M indicates 1,000,000-byte units; and G indicates 1,000,000,000-byte units. If K, M, or G is not present, the number defaults to 1-byte units.

The maximum value of /SIZE is limited by the capacity of the volume to which the file is to be written. If you do not use /DIRECT or /VTF=DIRECT, the value must be smaller than the capacity of the largest partition of the performance buffer.

- **DEFAULT:** None; you must specify this modifier.

/TYPE Specifies the type of file organization desired. A /TYPE value of RECORD indicates that the file can only be accessed sequentially or by record number. KEYED or KEYSEQUENTIAL indicates that the file can be accessed sequentially, by record number, or by key.

KEYSEQUENTIAL files are like KEYED files, but with the following restrictions:

- You can define only one key.
- Duplicate key values are not allowed.
- When writing records into the file, you must write the records in ascending key value order.
- When updating a record, you cannot change the key value.

If /TYPE is KEYED or KEYSEQUENTIAL, StorHouse requests you to enter key definitions. For further information about key definitions and an explanation of how to enter keys, see the section “Key-Definition Mode” on page 3-61.

- FORMAT:
 - /TYPE=KEYSEQUENTIAL
 - /TYPE=KEYED
 - /TYPE=RECORD
- DEFAULT: /TYPE=RECORD
- RESTRICTIONS: The VRAM_KEYED system parameter must be set to TRUE for VRAM_KEYED files to be created.

/VSET Specifies the file's primary volume set.

If /VSET and /FSET specify or default to a level F volume set and file set, StorHouse does not use the performance buffer when you write data into the file. Data is written directly to the primary file set and volume set on level F, regardless of the value of the /VTF or /DIRECT modifier, if specified.

- FORMAT: /VSET=vset_name
- DEFAULT: If you omit /VSET, the default is your current default volume set.
- RESTRICTIONS:
 - Wild cards are not allowed.
 - The volume set must be a primary volume set.

/VTF Specifies a file version's Vulnerability Time Factor (VTF) attribute, which determines how long StorHouse can leave new extents of the file version in the performance buffer before copying them to their primary file set.

- **FORMAT:** /VTF=NEXT, /VTF=NOW, or /VTF=DIRECT
 - If you specify /VTF=NEXT, the file is written to the performance buffer. The next time a backup occurs, the file is copied to its primary file set.
 - If you specify /VTF=NOW, StorHouse copies the new version from the performance buffer to its primary file set as part of the command.
 - If you specify /VTF=DIRECT, the file bypasses the performance buffer. Extents are written directly to their primary file set.
- **DEFAULT:** If you omit /VTF, the default is the value of the VTF system parameter.
- **RESTRICTIONS:** If you specify /DIRECT on the command, /VTF is ignored.
- **ACCESS REQUIREMENTS:** Delete access to the group and VTF privilege.

Estimating a Value for /SIZE

The value of /SIZE should be based on the size of the largest extent set in the file. Each time the file is opened with a mode of APPEND or checkpointed, StorHouse allocates the amount of space specified by /SIZE.

The minimum value of /SIZE should be set to the size of the largest data extent that will be written plus the sizes of the largest DF and K extents (for KEYED files) that are created.

Note: The largest value that you can specify for /SIZE is 2G. Do not assign a value for /SIZE greater than the size of the volume (or performance buffer) that will contain the extent set. Otherwise, CREATE FILE returns an error.

During an append to a VRAM file, whenever a CHECKPOINT is issued, or the file is closed, StorHouse produces a DF extent, a data extent, and for KEYED files, a K extent. If you plan to issue CHECKPOINT for the file being created, base your /SIZE estimate on the largest extents. The latest DF and K extents are usually the largest.

Once you have executed CREATE FILE, you cannot change the value of /SIZE. Therefore, you may want to increase your estimate to avoid running out of space.

In the formulas that follow, all sizes are in units of bytes.

Estimating Data Extent Size

The size of a data extent written during an append operation for a KEYED or RECORD file is given by Formula 1, where D is the largest number of bytes of user data that will be written in one extent set, and $nrecs_e$ is the largest number of records in one extent set:

Formula 1 $data\ size = 32,000 + (1.006 * (D + (nrecs_e * 7)))$

If there are no checkpoints, $nrecs_e$ is the same as the number of records in the file.

Formula 2 gives the size of a data extent written during an append operation for a KEYSEQUENTIAL file, where $K1$ is the size of the key:

Formula 2 $data\ size = 32,000 + (1.006 * (D + nrecs_e * (7 + K1)))$

Estimating DF Extent Size

For VRAM files, DF extents normally range from a minimum of 1.2 KB (1,200 bytes) to a maximum of 10 KB (10,000 bytes) with the average being about 6 KB (6,000 bytes) or less. Files with keys, checkpoints, and/or a large number of updates have larger DF extents. In addition, whenever a checkpoint is issued during an append to a VRAM file, StorHouse produces another DF extent. The newer DF extents are usually larger because they contain additional entries.

The DF extents include various tables. Calculate the sizes of these tables, as applicable, as described in the following paragraphs.

To compute DF size, always add the minimum DF size of 1.2 KB to the sum of the estimated table sizes.

All Files. For all files, estimate the size of the data table as follows, where $data_xtnts$ is the total number of data extents in the file:

Formula 3 $data\ table\ size = 13 + (12 * data_xtnts)$

A new data extent is created when a file is opened in mode=APPEND and either a checkpoint is performed or the file is closed normally.

Checkpointed Files. For files that will be checkpointed, estimate the size of the checkpoint table as follows, where max_cpts is the maximum number of checkpoints in one append operation:

Formula 4 $checkpoint\ table\ size = 13 + (8 * max_cpts)$

Files with Keys. For files with keys, estimate the size of the key name and key segment location tables. Estimate the size of the key name table as follows, where $nkeys$ is the total number of keys defined for the file:

Formula 5 $key\ name\ table\ size = 13 + (58 * nkeys)$

Estimate the size of the key segment location table as follows, where `nsegs` is the total number of key segments defined for the file:

Formula 6 $\text{key segment location table size} = 13 + (6 * \text{nsegs})$

Keysequential Files. For keysequential files, estimate the size of the key index table as follows, where `K1` is the size of the key in bytes; `data_xtnts` is the total number of data extents in the file (a new data extent is created when the file has been opened in APPEND mode and either a checkpoint is performed or the file is closed normally); and `nrecs_t` is the total number of records in the file:

Formula 7 $\text{key index table size} = 13 + (K1 + 6) * (\text{data_xtnts} + (\text{nrecs_t} * (K1 + 2) / 31711))$

A key index table is created only for KEYSEQUENTIAL files.

Updated Files. For files that will be updated (records changed or deleted), estimate the size of the change and record modification tables.

Note: These tables need to be included in your estimate only if you plan to write additional records after updates have been performed.

Estimate the size of the change table as follows, where `chg_xtnts` is the total number of change extents:

Formula 8 $\text{change table size} = 13 + (8 * \text{chg_xtnts})$

Change extents exist only for files created with StorHouse system parameter `VRAM_UPDATE` set to 1. A new change extent is created each time a file is opened with `mode=UPDATE`, records are changed (not just deleted), and the file is closed normally.

Estimate the size of the record modification table as follows, where `nupds` is the number of update entries:

Formula 9 $\text{record modification table size} = 13 + (9 * \text{nupds})$

An entry represents either an update of a single record or an updated group of consecutive records (all changed or all deleted) in order during one update operation.

Estimating K Extent Size

For KEYED files, the K (key data base) extent consists of an area for key data and one index area for each user-defined key. The size of a K extent is the sum of the allocations made for all areas. The amount of data stored in each area can be estimated, but the actual amount may vary due to storage overhead, index compression, and the distribution of keys.

Note: Whenever CHECKPOINT is issued during an append to a keyed VRAM file, StorHouse produces another K extent. Your estimate for each checkpoint should be based on the size of the last (largest) K extent.

Estimate the size of the key data area as follows, where `nrecs_t` is the total number of records with keys that are written to the file in all extent sets, and `K` is the sum of the sizes of all user-defined keys:

Formula 10 $\text{key data area size} = 4096 + (K + 12) * \text{nrecs_t} * 1.03$

Estimate the size of each key index area for user-defined keys as follows, where `Kn` is the size of key number `n`:

Formula 11 $\text{Kn index area size} = (Kn + 12) * \text{nrecs_t} * 2.06$

Note: These formulas are estimates. It is advisable to increase your calculated value for `/SIZE` to avoid running out of space.

Example 1

The following example illustrates how to use formulas 1, 3, 5, 6, 10, and 11 to estimate the value of `/SIZE` for a file *without* checkpoints (one data extent). This example assumes that:

- You are creating a KEYED VRAM file with one internal key and one key segment.
- The key is 10 bytes long.
- Each record is 500 bytes long and contains a key.
- 1,000 records will be written to the file.
- No checkpoints will be issued during the APPEND to this file.

Because there are no checkpoints, there will be one extent set containing 500 KB of user data (500 * 1000).

In this example, the value of `/SIZE` equals the sum of the allocations for the following:

- Data extent
- DF extent, which includes the sum of the following:
 - Minimum value of 1.2 KB
 - Data table size
 - Key name table size
 - Key segment location table size.
- K extent.

Table 3-1 shows the /SIZE calculations for the preceding example.

Table 3-1: Estimating /SIZE for a File without Checkpoints

Formula	Definitions
Formula 1 Data Size $= 32,000 + (1.006 \times (D + (nrecs_e \times 7)))$ $= 32,000 + (1.006 \times (500,000 + (1000 \times 7)))$ $= 32,000 + 510,042$ $= 542,042$ bytes or 543KB	D = Largest number of bytes of user data in one extent set ¹ nrecs_e = number of records in one extent set ²
Formula 3 Data Table Size $= 13 + (12 \times data_xtnts)$ $= 13 + (12 \times 1)$ $= 13 + 12$ $= 25$	data_xtnts = number of data extents
Formula 5 Key Name Table Size $= 13 + (58 \times nkeys)$ $= 13 + (58 \times 1)$ $= 13 + 58$ $= 71$ bytes	nkeys = number of keys
Formula 6 Key Segment Location Table Size $= 13 + (6 \times nsegs)$ $= 13 + (6 \times 1)$ $= 13 + 6$ $= 19$	nsegs = number of key segments
DF Extent Size = 1,200 + 25 + 71 + 19 = 1,315 bytes or 2KB	
Formula 10 Key Data Area $= 4,096 + (K + 12) \times nrecs_t \times 1.03$ $= 4,096 + (10 + 12) \times 1000 \times 1.03$ $= 4,096 + 22,660$ $= 26,756$ bytes or 27KB	K = sum of the sizes of all user-defined keys nrecs_t = total number of records containing keys in the file
Formula 11 Key Index Area $= (Kn + 12) \times nrecs_t \times 2.06$ $= (10 + 12) \times 100 \times 2.06$ $= 22 \times 1000 \times 2.06$ $= 45,320$ bytes or 46KB	Kn = size of key number n nrecs_t = total number of records containing keys in the file
The value of /SIZE = 543KB + 2KB + 27KB + 46KB = 618KB	

¹Total number of bytes because there are no checkpoints

² Same as nrecs_t because there are no checkpoints

K extent size is cumulative; it grows as more records with keys are appended to the file. In the preceding example, the file was appended only once. Instead, suppose that your application appends 1,000 records to the file three times. Therefore, after the third append, the key data base contains 3,000 key values. When determining the value for /SIZE in this application, you should use 3,000 for the value of n in formulas 10 and 11.

Example 2

The following example illustrates how to use formulas 2 through 7 to estimate the value of /SIZE for a file *with* checkpoints. This example assumes that:

- You are creating a VRAM KEYSEQUENTIAL file.
- The key is 50 bytes long and contains one key segment.
- The user records are 2 KB long.
- The total size of the user data is no larger than 6 GB.
- The file will be checkpointed because it is too large to fit on available media in one extent set.
- No more than 250 MB and no less than 240 MB of user data will be written for each checkpoint.
- Because the user data is no larger than 6 GB, and the minimum amount of data for one checkpoint is 240 MB, the maximum number of checkpoints (including the final close) is 25.
- Because the maximum amount of data in one checkpoint is 250 MB and the size of one record is 2 KB, the maximum number of user records in one extent set is 125,000.
- The file will not be updated.

In this example, the value of /SIZE equals the sum of the allocations for the following:

- Largest data extent
- Largest DF extent, which includes the sum of the following:
 - Minimum value of 1.2 KB
 - Data table size
 - Checkpoint table size
 - Key name table size
 - Key segment location table size
 - Key index table size.

Table 3-2 shows the /SIZE calculations for the preceding example.

Table 3-2: Estimating /SIZE for a File with Checkpoints

Formula	Definitions
Formula 2 Data Size $= 32,000 + (1.006 \times (D + nrecs_e \times (7 + K1)))$ $= 32,000 + (1.006 \times (250,000,000 + (125,000 \times 57)))$ $= 32,000 + 258,667,750$ $= 258,699,750$ bytes or 258,700KB	D = largest number of bytes of user data that is written in one extent set nrecs_e = number of records in one extent set K1 = size of key
Formula 3 Data Table Size $= 13 + (12 \times data_xtnts)$ $= 13 + (12 \times 25)$ $= 13 + 300$ $= 313$ bytes	data_xtnts = number of data extents
Formula 4 Checkpoint Table Size $= 13 + (8 \times max_cpts)$ $= 13 + (8 \times 25)$ $= 13 + 200$ $= 213$ bytes	max_cpts = maximum number of checkpoints
Formula 5 Key Name Table Size $= 13 + (58 \times nkeys)$ $= 13 + (58 \times 1)$ $= 13 + 58$ $= 71$ bytes	nkeys = number of keys
Formula 6 Key Segment Location Table Size $= 13 + (6 \times nsegs)$ $= 13 + (6 \times 1)$ $= 13 + 6$ $= 19$ bytes	nsegs = number of key segments
Formula 7 Key Index Table Size $= 13 + (K1 + 6) \times (data_xtnts + (nrecs_t \times (K1 + 2)/31,711))$ $= 13 + (50 + 6) \times (25 + (3,000,000 \times (50 + 2)/31,711))$ $= 13 + 56 \times (25 + 4,920)$ $= 13 + 276,920$ $= 276,933$ bytes	K1 = length of key data_xtnts = number of extents nrecs_t = number of records in the file
DF Extent Size = 1,200B + 313B + 213B + 71B + 19B + 276,933B = 287,749B or 288 KB	
The value of /SIZE = 258,700KB + 288KB = 258,988KB	

Key-Definition Mode

There are two types of keys: *internal* and *external*. Internal keys are fields that are contained within each data record. External keys are fields that are located in special key records that are associated with separate data records.

Internal keys can be defined for KEYED or KEYSEQUENTIAL files. External keys can be defined for KEYED files only. However, a single KEYED file can have only one type of key: either internal or external.

When you enter a CREATE FILE command and specify /TYPE=KEYED and /EXTERNAL, StorHouse puts you in external key-definition mode with the following prompt:

```
You may now enter EXTERNAL KEY definitions.  
HELP is available.  
COMMAND?
```

You are now ready to define external keys for your file.

When you enter CREATE FILE with /TYPE=KEYED (and omit /EXTERNAL) or /TYPE=KEYSEQUENTIAL, StorHouse puts you in internal key-definition mode with the following prompt:

```
You may now enter KEY definitions.  
HELP is available.  
COMMAND?
```

You are now ready to define the internal keys for your file.

StorHouse provides six commands to help define internal or external keys: KEY, DELETE, EXIT, HELP, INSERT, and LIST. These commands are explained in the following sections.

KEY Command

You must enter at least one key definition for KEYED and KEYSEQUENTIAL files. Otherwise, StorHouse does not create the VRAM file and returns an error status when you exit key-definition mode (using the EXIT command). Once you exit from key-definition mode, you cannot define more keys for the file.

You can enter a maximum of 31 internal or external keys for KEYED files but *only* one key for KEYSEQUENTIAL files. If you define more than the maximum number of keys allowed for a given file type, StorHouse returns an error message but allows you to process other commands.

Defining Keys

In the following discussion, angle brackets (< >) enclose optional entries and ellipses (...) indicate a repetition of the preceding information.

To define a key, enter the KEY command at the COMMAND? prompt according to the following format:

```
KEY key_name start_position:length <start_position:length <...>>
```


A key definition is composed of three items: key name, starting-byte position of the key in the user data record (or in the external key record), and key length in bytes. A space separates `key_name` from `start_position`. A colon separates `start_position` from the length of the key.

`Key_name` identifies the name of the key. Key names must contain 1 to 56 characters and include the characters A-Z (lowercase letters are translated to uppercase), the numbers 0-9, and hyphen (-). No other special characters are allowed.

`Start_position` specifies the byte position in the record where the key data begins. `Length` indicates the number of consecutive bytes of key data that begin at the `start_position`. For example, 5:10 indicates that the key begins in byte position 5 and has a length of 10 bytes.

Each key has one or more starting-byte positions and lengths. `Start_position` must be a number from 1 (the first byte of a record) to the size of a record. Each `start_position` has a corresponding length. Length must be a number from 1 to 254.

After each key definition is entered, the COMMAND? prompt reappears.

In the following example, only one starting byte and length are specified for the key:

```
COMMAND? KEY LAST-NAME 16:15
```

LAST-NAME is the name of the key. The key begins at byte position 16 in the record and is 15 bytes long.

More than one key can reference the same information. For example:

```
COMMAND? KEY FIRST-INITIAL 1:1  
COMMAND? KEY FIRST-NAME 1:15
```

The keys FIRST-INITIAL and FIRST-NAME both start in byte-position 1 and include the first character in the data record.

Concatenating Keys

Key definitions can be concatenated by entering more than one `start_position` and `length` combination on one KEY command. Each `start_position` and `length` combination defines a key segment. StorHouse extracts key data specified by each combination and combines the extractions in the order that they are listed on the KEY command. The sum of the lengths of each segment is the total length of the key, with the maximum key length remaining 254 bytes. `Start_position` and `length` combinations can overlap.

In the following command, CLAIM-HISTORY is the key name. Six key segments are defined, starting at byte positions 86, 100, 125, 145, 195, and 220. The total key length is 65 bytes, which is the combined length of all key segments.

```
COMMAND? KEY CLAIM-HISTORY 86:3 100:6 125:9 145:22 195:10 220:15
```

If a key definition is longer than one command line, type a hyphen as the last character on the current line and press R . StorHouse prompts for the continuation with "...?".

For example:

```
COMMAND? KEY CLAIM-HISTORY 86:3 100:6 125:9 145:22 195:10 220:15 -
...? 300:100 405:6
```

Commenting KEY Commands

Use the comment character to annotate key definitions. For UNIX hosts, type an exclamation point as the first character after the COMMAND? prompt. For IBM hosts, type a vertical bar (|).

For example, for UNIX hosts:

```
COMMAND? ! THIS KEY IS FOR LAST NAME
COMMAND? KEY LAST-NAME 16:15
```

For IBM hosts:

```
COMMAND? | THIS KEY IS FOR LAST NAME
COMMAND? KEY LAST-NAME 16:15
```

Comments are not saved by StorHouse but may be useful for host program documentation.

Sample Key Definition Series

The following commands represent a sample key definition series:

```
COMMAND? ! Last name of client
COMMAND? KEY LAST-NAME 16:15
COMMAND? ! Street address of client
COMMAND? KEY ADDRESS 31:25
COMMAND? KEY CITY 56:15
COMMAND? KEY STATE 71:2
COMMAND? KEY CLAIM-HISTORY 86:3 100:6 125:9 145:22 195:10 220:15 -
...? 300:100 405:6
```

StorHouse assigns a number to each key. In the preceding example, LAST-NAME is key number 1, ADDRESS is key number 2, CITY is key number 3, STATE is key number 4, and CLAIM-HISTORY is key number 5.

Other key definition commands follow.

DELETE Command

The DELETE command deletes a key definition and decrements subsequent key numbers by 1.

In the following example, the command deletes key definition 3. If keys 4 and 5 exist, they become key numbers 3 and 4, respectively:

```
COMMAND? DELETE 3
```

Once you exit key-definition mode using the EXIT command, you cannot delete keys with the DELETE command.

EXIT Command

The EXIT command causes StorHouse to exit from key-definition mode. The following command terminates the key definition process, completes the CREATE FILE command, and returns you to the StorHouse question mark (?) prompt:

```
COMMAND? EXIT
```

Once you have executed the EXIT command, you cannot define, delete, insert, or list keys for the VRAM file.

HELP Command

The HELP command displays the syntax of key definition commands. The following example displays a list of all key definition commands and their syntax:

```
COMMAND? HELP
```

Entering HELP and a command name displays the format of the command only:

```
COMMAND? HELP DELETE
```

The above command displays:

```
DELETE n
```

Here, n is the number of the key to be deleted.

INSERT Command

The INSERT command inserts a key definition in front of a previously defined key. The format of the INSERT command is shown as follows:

```
INSERT n key_name start_position:length <start_position:length <...>>
```

The character *n* represents the number of the inserted key. All key numbers following the insertion are incremented by one. In the following example, the key ZIP-CODE is inserted as key number 4. The previously defined key number 4 becomes key number 5:

```
COMMAND? INSERT 4 ZIP-CODE 81:5
```

Once you exit key-definition mode using the EXIT command, you cannot insert new keys using the INSERT command.

LIST Command

The LIST command displays information for one or more key definitions in key number order. The displayed information includes key number, key name, starting-byte position, and key length.

Keys can be displayed only in key-definition mode, that is, prior to executing EXIT.

The format of the LIST command is shown as follows:

```
LIST <n[:n+x]>
```

Here, *n* represents a key number and *n + x* represents a range of key numbers. If you do not specify a value for *n*, LIST displays all key definitions.

For example, the following command displays all keys that were defined in the previous sample key definition series:

```
COMMAND? LIST
```

These keys are displayed in the following format (column titles do not display):

Key Number	Key Name	Starting-Type Position	Key Length
1	LAST-NAME	16	15
2	ADDRESS	31	25
3	CITY	56	15
4	STATE	71	2
5	CLAIM-NUMBER	86	3
		100	6
		145	22
		195	10
		220	15
		300	100
		405	6

You can also display information for a specific key. The following command displays information only for key definition number 3:

```
COMMAND? LIST 3
```

Key number 3 is shown as follows (column titles do not display):

Key Number	Key Name	Starting-Byte Position	Key Length
3	CITY	56	15

The following command specifies a range of keys for display:

```
COMMAND? LIST 1:4
```

The number 1 indicates the start of the range, and 4 indicates the end of the range. All keys between key numbers 1 and 4 inclusive are displayed:

Key Number	Key Name	Starting-Byte Position	Key Length
1	LAST NAME	16	15
2	ADDRESS	31	25
3	CITY	56	15
4	STATE	71	2

REPLACE Command

The REPLACE command replaces the specified key definition with a new key definition. The format for REPLACE is shown as follows:

```
REPLACE n key_name start_position:length <start_position:length <...>>
```

The character *n* represents the number of the key definition to be replaced.

The following command replaces the existing fourth key definition with the new key definition STATE:

```
COMMAND? REPLACE 4 STATE 71:10
```

Examples

- To create a KEYSEQUENTIAL VRAM file called USERFILE, specify 200 MB of storage to be allocated to USERFILE whenever it is opened for writing or checkpointed, specify a total of 51 records to be cached for each read-sequential, read-record, or read-keyed function (twice the specified number plus the original record [/CACHE=25]), specify USERFILE's write and delete passwords as WRITEPW and DELETEPW, and specify its read password as null, enter:

```
? CREATE FILE USERFILE /SIZE=200M /CACHE=25
/TYPE=KEYSEQUENTIAL /NEWPASSWORDS=:WRITEPW:DELETEPW
```

All omitted modifiers default to the system or session default values. Because you omitted /GROUP, /FSET, and /VSET, USERFILE is created in your default file access group, file set, and volume set.

Because USERFILE is a KEYSEQUENTIAL file, you must define one key when the file is created. After you enter the CREATE FILE command, StorHouse places your session in key-definition mode. The prompt is:

```
COMMAND?
```

At COMMAND?, define the key. For example, the following command indicates that the records in USERFILE are keyed by last name:

```
COMMAND? KEY LAST-NAME 16:15
```

The key begins at byte position 16 in the record and is 15 bytes long. You can display the key definition with the LIST command:

```
COMMAND? LIST
1 LAST-NAME16 15
COMMAND?
```

The first number (1) indicates that this is the first key definition; LAST-NAME is the name of the key; 16 is the starting position of key values in data records; and 15 is the length of the key in bytes. After defining the key, you can exit key-definition mode, which completes the CREATE FILE command:

```
COMMAND? EXIT
```

When the command completes, StorHouse returns you to the question mark (?) prompt.

- To create a KEYED VRAM file called USERFILE2, specify 1000 MB of storage to be allocated to USERFILE2 whenever it is opened for writing or checkpointed, specify its ATF attribute as 1 (indicating that a short access time is very important), specify the VTF attribute NOW to instruct StorHouse to back up the file immediately (in other words, before it completes processing of the CREATE FILE command), specify the number of records that VRAM will cache as 20, and specify the file's primary file set and volume set as USERFSET and USERVSET, respectively, enter:

```
? CREATE FILE USERFILE2 /SIZE=1000M /TYPE=KEYED /ATF=1
/VTF=NOW /CACHE=20 /FSET=USERFSET /VSET=USERVSET
```

All omitted modifiers default to the system default values. Because you omitted /GROUP, it defaults to your default file access group.

After you enter the CREATE FILE command, the system puts your session in key-definition mode, which is indicated by the COMMAND? prompt. You must define at least one key and no more than 31 keys for a KEYED file. At

COMMAND?, define the first key. For example, the following command indicates that USERFILE2's records are keyed by last name:

```
COMMAND? KEY LST-NAME 16:15
```

The last name key begins at byte 16 of the record and is 15 bytes long.

If the records are also to be keyed by first initial, define a second key. For example, the following command indicates that the first initial begins at byte 31 and is 1 byte long:

```
COMMAND? KEY FIRST-INITIAL 31:1
```

As in the previous example, you can display all key definitions with the LIST command:

```
COMMAND? LIST
1 LST-NAME 16 15
2 FIRST-INITIAL 31 1
COMMAND?
```

The first number in each line indicates the key definition index number. The index numbers are assigned in the order in which the keys are first entered. LST-NAME is the name of the first key. Its first byte is byte 16 of each data record, and it is 15 bytes long. The second key is named FIRST-INITIAL. It starts at byte 31 of each data record and is 1 byte long.

If you want to change the key definitions, use the other key definition commands before you exit key-definition mode. For example, the following command replaces the first key definition (LST-NAME) with the key LAST-NAME, which begins at byte 16 and is 15 bytes long:

```
COMMAND? REPLACE 1 LAST-NAME 16:15
```

The next command inserts a new key definition in index position 2. The new key is FIRST-NAME, which begins at byte 31 and is 10 bytes long. The previous key identified by index 2 (FIRST-INITIAL) is now identified by index number 3.

```
COMMAND? INSERT 2 FIRST-NAME 31:10
```

This next command deletes the key definition identified by index number 3 (FIRST-INITIAL):

```
COMMAND? DELETE 3
```

Listing the keys now produces the following:

```
COMMAND? LIST
1 LAST-NAME 16 15
2 FIRST-NAME 31 10
COMMAND?
```

After verifying that the key definitions are correct, you can exit key-definition mode (EXIT command), which completes the CREATE FILE command:

COMMAND? EXIT

When the command completes, StorHouse returns you to the question mark (?) prompt.

CREATE FSET

The CREATE FSET command creates a file set.

Format

CREATE FSET fset_name

COMMAND FORMAT SUMMARY					
COMMAND, PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
CREATE FSET	ALLOCATION	-	-	-	-
/REPORT	-	-	-	-	-
fset_name	-	-	-	-	(Required)
/AUTO_STAGE	-	-	-	-	/NOAUTO_STAGE
/CONTIGUOUS	-	-	-	-	/CONTIGUOUS
/FORCE_RETENTION	-	-	-	-	/NOFORCE_RETENTION
/LIMIT=...	-	-	-	-	/LIMIT=0
/NONCONTIGUOUS	-	-	-	-	-
/RETENTION=...	-	-	-	-	-
/RPL_CLASS=...	-	-	-	-	DEFAULT
/SIZE=...	-	-	-	-	/SIZE=0
/UPDATE=...	-	-	-	-	/UPDATE=0
/VSET=...	-	-	-	-	See text

Description

CREATE FSET creates a file set, allocates space to the set, and assigns the initial file set attributes.

File sets have either a *contiguous* or *noncontiguous* attribute. A contiguous file set is contained entirely on one volume side or on entire volume sides with any remainder on one side of a volume. When allocating space for a file set with the contiguous attribute, StorHouse allocates entire volume sides unless the LIMIT attribute for the file set restricts an allocation to less than a full side.

When allocating space for a noncontiguous file set, the system may allocate space on more than the minimum number of sides required for the file set size. It allocates all free space that it locates in the volume set until the size specified for the file set is satisfied.

The `auto_stage` attribute controls whether files in a file set are subject to automatic file staging when they are accessed. Two system parameters, `MIG_REPOP_LOAD` and `MIG_REPOP_MAX`, control whether the auto-staging feature is enabled.

`MIG_REPOP_LOAD` determines the number of stage requests that can be queued for transfer. `MIG_REPOP_MAX` specifies the maximum file extent size (in bytes) that can be considered for staging.

When auto-staging is enabled, StorHouse stages file extents with the `auto_stage` attribute to the performance buffer when they are accessed. If a file extent already resides in the performance buffer, it is not recopied. If the performance buffer contains insufficient space, StorHouse does not stage the file nor does it initiate a regular migration to free up additional space.

The `/RETENTION` parameter defines the file set retention attribute. This attribute applies to all files (in the file set) that were created without a specified retention attribute or whenever `/FORCE_RETENTION` is in effect on the file set.

The `replication_class_name` attribute specifies the name of the replication class for files in the file set. The replication class defines information (replication parameters) about the destination StorHouse system that will contain the file copies.

Parameters

`fset_name` Specifies a unique file set name in the volume set specified by `/VSET`.

- **FORMAT:** `fset_name`

File set names must contain 1 to 8 characters, consisting of the following ASCII characters: A-Z (uppercase), 0-9, _ (underscore), and \$ (dollar sign). StorHouse always translates file set names to uppercase characters, even if they are enclosed in quotes.

- **DEFAULT:** None; you must specify this parameter.

Command Modifiers

`/REPORT` Controls the generation of special text responses for the completion of significant actions. `/REPORT` instructs StorHouse to generate a text response. `/NOREPORT` instructs StorHouse not to generate a text response.

- **FORMAT:** `/REPORT` or `/NOREPORT`
- **DEFAULT:** `/NOREPORT`

Parameter Modifiers

/AUTO_STAGE Assigns or clears the AUTO_STAGE attribute to the file set. You set this attribute to enable StorHouse to automatically stage (copy) the files in the specified file set from Level L storage to the performance buffer for faster access when read from the host.

- **FORMAT:** /AUTO_STAGE or /NOAUTO_STAGE
- **DEFAULT:** /NOAUTO_STAGE
- **RESTRICTIONS:** The file set must be a primary file set on Level L storage.
- **PRIVILEGES:** None.

/CONTIGUOUS Assigns the CONTIGUOUS storage allocation attribute to the file set.

- **FORMAT:** /CONTIGUOUS
- **DEFAULT:** /CONTIGUOUS
- **RESTRICTIONS:** /CONTIGUOUS and /NONCONTIGUOUS are mutually exclusive.

/FORCE_RETENTION Specifies whether the file set retention value overrides the file retention value (for files in this file set) explicitly supplied by an application at file create time. /NOFORCE_RETENTION indicates that the file set retention value does not override the file retention value.

- **FORMAT:**
 - /FORCE_RETENTION
 - /NOFORCE_RETENTION
- **DEFAULT:** /NOFORCE_RETENTION
- **RESTRICTIONS:** /FORCE_RETENTION is valid for primary file sets only.

/LIMIT Specifies the maximum number of bytes this file set can contain. A value of zero indicates that the size of the file set is unlimited.

- **FORMAT:** /LIMIT=number_of_bytes or /LIMIT=0

You must specify the number_of_bytes value as n, nK, nM, or nG.

The letter n represents a numeric field. The value of n can range from 0 up to 4294967295. (Do not include commas when specifying a number with more than three digits.) K indicates that the number is in 1,000-byte units; M indicates 1,000,000-byte units; and G indicates 1,000,000,000-byte units. If K, M, or G is not present, the number defaults to 1-byte units.

- **DEFAULT:** If you omit /LIMIT, the default is /LIMIT=0.
- **RESTRICTIONS:** If the value of /LIMIT is not zero, it must be greater than or equal to the value of /SIZE.

/NONCONTIGUOUS Assigns the NONCONTIGUOUS storage allocation attribute to the file set.

- **FORMAT:** /NONCONTIGUOUS
- **DEFAULT:** If you omit /NONCONTIGUOUS, the default is /CONTIGUOUS.
- **RESTRICTIONS:** /NONCONTIGUOUS and /CONTIGUOUS are mutually exclusive.

/RETENTION Specifies the file set retention attribute (retention period). The file set retention attribute applies only to files (in the file set) that were created without a specified retention value, or whenever /FORCE_RETENTION is in effect on the file set.

- **FORMAT:**

Option	Description
/RETENTION=DEFAULT	Sets the retention period to the default value.
/RETENTION=number_of_days	<p>Sets the retention period to the specified number of days. The retention period ends when the current date is beyond the file's last_modified date plus the retention value.</p> <p>A value of 0 indicates no retention period (same as specifying ZERO).</p> <p>Example: /RETENTION=3</p> <p>In this example, the retention period is 3 days. The retention period for a file that was last modified at 11 p.m. on December 12 expires at 11 p.m. on December 15.</p>
/RETENTION=ZERO	Sets no retention period.
/RETENTION=FOREVER	Sets an infinite retention period.

- **DEFAULT:** If you omit /RETENTION, the default retention attribute is DEFAULT.
- **RESTRICTIONS:** /RETENTION is valid for primary file sets only.

/RPL_CLASS Specifies the name of the replication class for files written to this file set. A replication class is a collection of replication-related information (system, file set, volume set, and link names and network device identification) about the target StorHouse system. If the specified replication class does not exist, StorHouse generates a warning message.

- **FORMAT:** /RPL_CLASS=replication_class_name

A replication_class_name can consist of from 1 to 8 of the following ASCII characters: A-Z, 0-9, _, and \$. StorHouse always forces replication class names to uppercase, even when enclosed in quotes.

- **DEFAULT:** If you omit /RPL_CLASS, the default is no assigned replication class.
- **RESTRICTIONS:** /RPL_CLASS is valid for primary file sets only.

/SIZE Specifies the initial number of bytes to be allocated to the file set. If the specified size is zero, the system allocates no space to the file set until the space is actually needed. A zero size file set is useful only if the file set is extendible.

- **FORMAT:** /SIZE=number_of_bytes

You must specify the number_of_bytes value as n, nK, nM, or nG.

The letter n represents a numeric field. The value of n can range from 0 up to 4294967295. (Do not include commas when specifying a number with more than three digits.) K indicates that the number is in 1,000-byte units; M indicates 1,000,000-byte units; and G indicates 1,000,000,000-byte units. If K, M, or G is not present, the number defaults to 1-byte units.

- **DEFAULT:** If you omit /SIZE, the default is /SIZE=0.

/UPDATE Specifies a percentage of the file set size to be set aside for VRAM file updates. The system reserves a percentage of each surface allocation that makes up the set. If the value of this attribute is zero percent, the system reserves no space for updates and uses general free space to store updates.

- **FORMAT:** /UPDATE=percentage

The percentage can range from 0 to 99 percent.

- **DEFAULT:** /UPDATE=0

/VSET Specifies the volume set in which the file set is to be created.

- **FORMAT:** vset_name
- **FORMAT RESTRICTIONS:** Wild cards are not allowed.
- **DEFAULT:** If you omit /VSET, the default is your current default volume set.

Examples

- To create the contiguous file set USERFSET in the volume set USERVSET with a /SIZE of 1000 MB, a /LIMIT of 4000 MB, and a /RETENTION of 60 days, enter:

```
? CREATE FSET USERFSET /VSET=USERVSET /SIZE=1000M  
/LIMIT=4000M /RETENTION=60
```

Because you did not specify /UPDATE (the default is /UPDATE=0), no update space is reserved in USERFSET.

Assume the following:

- USERFSET is a level L file set.
- Volumes have 3500 MB per side.
- All volumes allocated to the volume set are empty.

Because the file set is contiguous, StorHouse allocates one full volume side (3500 MB) to USERFSET even though only 1000 MB are required to satisfy the specified size request.

If more than 3500 MB are subsequently allocated to files in USERFSET, StorHouse extends USERFSET to another volume side. It allocates all free space on the second side up to USERFSET's 4000 MB limit. Because 3500 MB are allocated on the first side, the file set would have 500 MB allocated on the second side.

- To create the noncontiguous file set USERFSET in the volume set USERVSET with a /SIZE of 0, a /LIMIT of 0, and the AUTO_STAGE attribute, enter:

```
? CREATE FSET USERFSET /NONCONTIGUOUS /VSET=USERVSET  
/SIZE=0 /LIMIT=0 /AUTO_STAGE
```

Because the initial size is zero, StorHouse does not allocate space to the file set until it is required to store a file. USERFSET's size is unlimited as long as its volume set contains space for extension. Because you did not specify /UPDATE, no space is reserved for updates because the default is /UPDATE=0.

When the system allocates space for USERFSET, it allocates only the amount of space required to store the file being written. It allocates the space on the first volume it finds that has at least the required amount of free space; however, the first volumes it searches are those that already have space allocated to the file set.

Because /RETENTION was omitted on the command, the file set retention attribute is DEFAULT.

CREATE GROUP

The CREATE GROUP command creates an access group name under which files can be stored.

Format

CREATE GROUP groupname<:<readpw><:<writepw><:<deletepw>>>

COMMAND FORMAT SUMMARY					
COMMAND, PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
CREATE GROUP	GROUP	-	-	-	-
/REPORT	-	-	-	-	-
groupname	-	-	-	-	(Required)
/PERF_BUF=...	SYSTEM	-	-	-	See text

Description

CREATE GROUP creates an access group name under which files can be stored and assigns access passwords to the new group.

Parameters

groupname Specifies the name and passwords of the access group to be created. The group name must be unique, or StorHouse will return an error status.

- **FORMAT:** groupname<:<readpw><:<writepw><:<deletepw>>>
- **DEFAULT:** None; groupname is required. If you do not specify a password, the default is null, which allows any user that type of access to the group without specifying a password.

Command Modifiers

/REPORT Controls the generation of special text responses for the completion of significant actions. **/REPORT** instructs StorHouse to generate a text response. **/NOREPORT** instructs StorHouse not to generate a text response.

- **FORMAT:** **/REPORT** or **/NOREPORT**
- **DEFAULT:** **/NOREPORT**

Parameter Modifiers

/PERF_BUF Specifies the initial number of bytes of performance buffer space to be reserved for the group's exclusive use. If the requested amount of space is available (relative to the minimum amount of performance buffer space reserved for the general area by the **MIG_GENERAL** system parameter), StorHouse reduces the size of the general performance buffer by the specified amount. If the amount of space is not available, StorHouse does not reserve any performance buffer space for the group. (StorHouse still creates the group, however.)

- **FORMAT:** **/PERF_BUF=number_of_bytes**

You must specify the **number_of_bytes** value as **n**, **nK**, **nM**, or **nG**.

The letter **n** represents a numeric field. The value of **n** can range from 0 up to 4294967295. (Do not include commas when specifying a number with more than three digits.) **K** indicates that the number is in 1,000-byte units; **M** indicates 1,000,000-byte units; and **G** indicates 1,000,000,000-byte units. If **K**, **M**, or **G** is not present, the number defaults to 1-byte units.

- **DEFAULT:** If you omit **/PERF_BUF**, no performance buffer space is reserved.

Example

To create the file access group **USERGRP**, assign it write and delete passwords of **WRITEPW** and **DELETEPW**, respectively, assign its read password to null, and reserve 100 MB of performance buffer space for **USERGRP**'s exclusive use, enter:

```
? CREATE GROUP USERGRP::WRITEPW:DELETEPW /PERF_BUF=100M
```


CREATE PRIMARY

The CREATE PRIMARY command creates a primary copy of a file version by copying a backup or archive into a primary volume set and updating the primary directory.

Format

CREATE PRIMARY filespec

COMMAND FORMAT SUMMARY					
COMMAND, PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
CREATE PRIMARY	COPY	-	-	-	-
/CONFIRM	-	-	-	-	-
/FID	-	-	-	-	-
/REPORT	-	-	-	-	-
/TO_FSET=...	-	-	-	-	/TO_FSET= *
/TO_VSET=...	-	-	-	-	Current default
/WAIT	-	-	-	-	-
filespec	-	R+W	R+W	-	(Required)
/DIRECTORY=...	-	-	-	-	/DIRECTORY= BACKUP
/FSET=...	-	-	-	-	/FSET= *
/GROUP=...	SETGROUP	R+W	-	-	Current default
/PASSWORDS=...	-	-	-	-	-
/VERSION=...	-	-	-	-	/VERSION=0
/VSET=...	-	-	-	-	/VSET= *

Description

CREATE PRIMARY creates a primary copy of each backup or archive file specified. If a primary file is being created and a file with the same file identifier already exists in the primary directory, the existing file must be deleted and removed before CREATE PRIMARY can be executed. Users generally access primary copies of files.

Parameters

filespec Specifies the name or file identifier of a file version in the backup or archive directory to be used to create the primary.

- **FORMAT:**

If you omit /FID, the format is:

- filename
- partial_filename*
- *

The file name contains 1 to 56 printable ASCII characters. At least one character must be non-blank. Lowercase characters are distinct from uppercase characters.

The wild card is valid only if you specify it as the last or only character in the name.

If you specify /FID, the format is x.y, where x is the system identifier, and y is the file number assigned to the file. An example of a file identifier is 234.77, where 234 is the system identifier and 77 is the file number. The file identifier (fid) uniquely identifies a file version, so none of the other file selection modifiers can be used to select files.

- **DEFAULT:** None; you must specify this parameter.
- **ACCESS REQUIREMENTS:** Read and write access to the file.

Command Modifiers

/CONFIRM Controls whether StorHouse asks you to confirm the command.

- **FORMAT:** /CONFIRM or /NOCONFIRM
- **DEFAULT:** /NOCONFIRM

When the system requests a confirmation, enter YES (also Y or YE) or NO (also N). If you press R or enter any characters other than those described as a YES response, StorHouse interprets them as NO.

If the command is to be performed for more than one file, the system requests confirmation for each file and allows an END (also E or EN) response. END directs the system not to perform the command for the current file and subsequent files.

- /FID** Indicates that the `filespec` parameter contains a file identifier rather than a file name.
- **FORMAT:** /FID
 - **DEFAULT:** If you omit /FID, the `filespec` parameter contains a standard file name specification.
 - **RESTRICTIONS:** /FID is mutually exclusive with /VERSION, /GROUP, and /PASSWORDS.
- /REPORT** Controls the generation of a special text response for the creation of each primary. /REPORT instructs StorHouse to generate a text response. /NOREPORT instructs StorHouse not to generate a text response.
- **FORMAT:** /REPORT or /NOREPORT
 - **DEFAULT:** /NOREPORT
- /TO_FSET** Specifies the primary file set(s) in which the primaries are to be created. If you specify a file set name, the command copies all selected files to the specified primary file set. If you specify a wild card, the command uses the name of the source file's file set as the name of its destination file set.
- See the /TO_VSET description for additional information.
- **FORMAT:** /TO_FSET=fset_name or /TO_FSET=*
 - **FORMAT RESTRICTIONS:** The destination file set cannot be the performance buffer file set.
 - **DEFAULT:** /TO_FSET=*
- /TO_VSET** Specifies the primary volume set in which the primaries are to be created.
- **FORMAT:** /TO_VSET=vset_name
 - **DEFAULT:** If you omit /TO_VSET, the default is your current default volume set.
- /WAIT** Instructs StorHouse to wait for a locked file to be unlocked before attempting to use it in the command execution. Without /WAIT, StorHouse returns an error status upon finding that the file is locked. If more than one file is specified, such as with a wild card, /WAIT causes the system to wait for each one to become available.
- **FORMAT:** /WAIT
 - **DEFAULT:** No /WAIT modifier. StorHouse aborts the command or processing of an item if the specified file version is not available.

Parameter Modifiers

- /DIRECTORY** Specifies the directory from which source files are to be selected.
- **FORMAT:** /DIRECTORY=ARCHIVE or /DIRECTORY=BACKUP
 - **DEFAULT:** /DIRECTORY=BACKUP
 - **RESTRICTIONS:** If you specify /VSET, the specified volume set must belong to the directory selected by /DIRECTORY.
- /FSET** Specifies the backup or archive file set name from which source files are to be selected. The performance buffer file set name is not applicable because /FSET must specify an archive or backup file set.
- **FORMAT:** /FSET=fset_name or /FSET=*
 - **DEFAULT:** If you omit /FSET, the default is /FSET=*
 - **RESTRICTIONS:** If you specify /FSET, you must also specify /VSET.
- /GROUP** Specifies the file access group name and, optionally, group passwords for the source files.
- **FORMAT:**
 - /GROUP=groupname<:<readpw><:writepw>>
 - /GROUP=partial_groupname*
 - /GROUP=*
 - **DEFAULT:** If you do not specify this modifier, the default is your current default group.
 - **PRIVILEGE:** SETGROUP is required for the specification of any group except your default group.
 - **ACCESS REQUIREMENTS:** You must have read and write access to the group. You must specify the group's read and write passwords unless:
 - The group is not protected by read and/or write passwords.
 - Your privilege bypasses checks for group read and/or write passwords.
 - Your default access to the group includes read and/or write access.
 - **RESTRICTIONS:** /GROUP is mutually exclusive with /FID.

- /PASSWORDS** Specifies one or more file access passwords.
- **FORMAT:** /PASSWORDS=<readpw><:writepw>
- You must specify a read password to obtain read access and/or a write password to obtain write access unless:
- The file is not protected by a read and/or write password.
 - Your privilege bypasses read and/or write password checks.
- **DEFAULT:** If you omit /PASSWORDS, the passwords default to nulls.
 - **RESTRICTIONS:** /PASSWORDS is mutually exclusive with /FID.
- /VERSION** Specifies the relative file version of the backup or archive file that is to be used as the source.
- **FORMAT:** /VERSION=version or /VERSION=*
- The value of version can range from 0 through -65535.
- **DEFAULT:** /VERSION=0
 - **RESTRICTIONS:** /VERSION is mutually exclusive with /FID.
- /VSET** Specifies the backup or archive volume set name from which the source files are to be selected.
- **FORMAT:** /VSET=vset_name or /VSET=*
 - **DEFAULT:** If you omit /VSET, the default is /VSET=*

Examples

- To create a primary copy of the most recent version (the default is relative version 0) of the file USERFILE, enter:

```
? CREATE PRIMARY USERFILE
```

USERFILE must be located in the backup directory, which is the default when /DIRECTORY is omitted.

Because the command does not specify a file access group (/GROUP) or destination volume set (/TO_VSET), the primary file is created in your default access group and primary volume set. Because you omitted /TO_FSET, the command uses the name of the source file's file set as the name of its destination

file set. The file set must belong to the destination volume set—in this case, your default primary volume set.

- To create a primary copy of the file whose identifier is 234.699, enter:

```
? CREATE PRIMARY 234.699 /FID
```

The file is located in the backup directory, the default when /DIRECTORY is omitted.

- To create primary copies of all versions of all files that are located in the access group USERGRP, in the file set AFSET1 and in the volume set AVSET1 in the archive directory, and create these primaries in the file set PFSET1 in the volume set PVSET1, enter:

```
? CREATE PRIMARY * /VERSION=* /DIRECTORY=ARCHIVE  
/FSET=AFSET1 /VSET=AVSET1 /GROUP=USERGRP /TO_FSET=PFSET1  
/TO_VSET=PVSET1
```

To bypass specifying file and group passwords, you must have read and write access to all source files and to USERGRP.

CREATE VSET

The CREATE VSET command creates a StorHouse volume set.

Format

CREATE VSET vset_name

COMMAND FORMAT SUMMARY					
COMMAND, PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
CREATE VSET	ALLOCATION	-	-	-	-
/REPORT	-	-	-	-	-
vset_name	-	-	-	-	(Required)
/ARCFSET=...	-	-	-	-	/ARCFSET=*
/ARCVSET=...	-	-	-	-	-
/BKPFSET=...	-	-	-	-	/BKPFSET=*
/BKPVSET=...	-	-	-	-	-
/CYCLE=...	-	-	-	-	/CYCL=0
/DEACTIVATE=...	-	-	-	-	/DEAC=0
/DIRECTORY=...	-	-	-	-	/DIRECTORY=PRIMARY
/EXPIRE=...	-	-	-	-	/EXP=0
/HOLD	-	-	-	-	See text
/LIBRARY=...	-	-	-	-	See text
/LIMIT=...	-	-	-	-	/LIMIT=0
/MEDIA=...	-	-	-	-	See text
/SIZE=...	-	-	-	-	/SIZE=0

Description

CREATE VSET creates a volume set, allocates any required volumes to the volume set to satisfy the requested size, and assigns initial attributes to the set.

Note: An error will occur if you attempt to create a volume set that uses a tape cleaning cartridge free pool volume set as its free pool.

Parameters

- vset_name** Specifies a unique volume set name to be created.
- **FORMAT:** vset_name
- Volume set names must contain 1 to 8 characters, consisting of the following ASCII characters: A-Z (uppercase), 0-9, _ (underscore), and \$ (dollar sign). StorHouse always translates volume set names to uppercase characters, even if they are enclosed in quotes.
- **DEFAULT:** None; you must specify this parameter.

Command Modifiers

- /REPORT** Controls the generation of special text responses for the completion of significant actions. /REPORT instructs StorHouse to generate a text response. /NOREPORT instructs StorHouse not to generate a text response.
- **FORMAT:** /REPORT or /NOREPORT
 - **DEFAULT:** /NOREPORT

Parameter Modifiers

- /ARCFSET** Specifies the default destination archive file set for files in the new primary volume set. The archive file set does not have to exist before you specify it on this modifier.
- **FORMAT:** /ARCFSET=fset_name or /ARCFSET=*
- File set names must contain 1 to 8 characters, consisting of the following ASCII characters: A-Z (uppercase), 0-9, _ (underscore), and \$ (dollar sign). StorHouse always translates file set names to uppercase characters, even if they are enclosed in quotes.
- **DEFAULT:** If you omit /ARCFSET, the default is /ARCFSET=*
- /ARCVSET** Specifies the default destination archive volume set for files in the new primary volume set. The archive volume set does not have to exist before you specify it on this modifier.
- **FORMAT:** /ARCVSET=vset_name
- Volume set names must contain 1 to 8 characters, consisting of the following ASCII characters: A-Z (uppercase), 0-9, _ (underscore), and \$ (dollar sign).

StorHouse always translates volume set names to uppercase characters, even if they are enclosed in quotes.

- **FORMAT RESTRICTIONS:** Wildcards are not allowed.
- **DEFAULT:** If you omit /ARCVSET, the system does not assign a default archive volume set.

/BKPFSET Specifies the default destination backup file set for files in the new primary volume set. The backup file set does not have to exist before you specify it on this modifier.

- **FORMAT:** /BKPFSET=fset_name or /BKPFSET=*

File set names must contain 1 to 8 characters, consisting of the following ASCII characters: A-Z (uppercase), 0-9, _ (underscore), and \$ (dollar sign). StorHouse always translates file set names to uppercase characters, even if they are enclosed in quotes.

- **DEFAULT:** If you omit /BKPFSET, the default is /BKPFSET=*

/BKPVSET Specifies the default destination backup volume set for files in the new primary volume set. The backup volume set does not have to exist before you specify it on this modifier.

- **FORMAT:** /BKPVSET=vset_name

Volume set names must contain 1 to 8 characters, consisting of the following ASCII characters: A-Z (uppercase), 0-9, _ (underscore), and \$ (dollar sign). StorHouse always translates volume set names to uppercase characters, even if they are enclosed in quotes.

- **FORMAT RESTRICTIONS:** Wildcards are not allowed.
- **DEFAULT:** If you omit /BKPVSET, the system does not assign a default backup volume set.

/CYCLE Specifies a number of days after which the second side of a volume in the volume set can be used.

- **FORMAT:** /CYCLE=number_of_days

The number_of_days must be a numeric value between 0 and 10000.

If you assign a non-zero value to /CYCLE, the system deactivates the second side of each volume added to the volume set. The system allocates no space for files on the second side while it is deactivated. The system activates the second side and deactivates the first side when the specified number of days has passed since the *last* file space was allocated on the first side. If the volume has only one side, a non-zero /CYCLE value will cause the system to do nothing when you assign the

value and to deactivate the first side when the specified number of days has passed since the last file space was allocated on the volume.

If /CYCLE=0, the system does not deactivate the second side when a volume is added to the volume set.

- DEFAULT: If you omit /CYCLE, the default value is 0.
- RESTRICTIONS: This modifier does not apply to level F volume sets.

/DEACTIVATE Specifies a number of days after which the system will no longer allocate space for files on a side of a volume belonging to the volume set.

- FORMAT: /DEACTIVATE=number_of_days

The number_of_days must be a numeric value between 0 and 10000.

If you assign a non-zero value to /DEACTIVATE, the system deactivates a side of a volume when the specified number of days has passed since the *first* file space was allocated on the side. Once deactivated, no additional file space can be allocated on the side.

If /DEACTIVATE=0, the system does not deactivate volume sides based on the first allocation.

- DEFAULT: If you omit the modifier, the default is /DEACTIVATE=0.
- RESTRICTIONS: This modifier does not apply to level F volume sets.

/DIRECTORY Specifies the directory in which files in the volume set are to be cataloged.

- FORMAT:
 - /DIRECTORY=ARCHIVE
 - /DIRECTORY=BACKUP
 - /DIRECTORY=PRIMARY
- DEFAULT: /DIRECTORY=PRIMARY

/EXPIRE Specifies the number of days after the last file space allocation on a volume side that the system will mark the side as deactivated and expired.

- FORMAT: /EXPIRE=number_of_days

The number_of_days must be a numeric value between 0 and 20000.

If the number_of_days value is not zero, StorHouse deactivates and marks a volume side as expired when the specified number of days has passed since the *last* file space was allocated on the side.

If the `number_of_days` value is zero, the system does not expire volume sides based on the last allocation.

- **DEFAULT:** If you do not specify the modifier, the default is `/EXPIRE=0`.
- **RESTRICTIONS:** This modifier does not apply to level F volume sets.

/HOLD Specifies the value of the HOLD attribute for the volume set. StorHouse selects those volumes that have a HOLD attribute value of HOLD for migration out of a library device after those that have a value of NOHOLD.

- **FORMAT:** `/HOLD` or `/NOHOLD`

`/HOLD` indicates that volumes being added to the volume set will be assigned a HOLD attribute value of HOLD. `/NOHOLD` indicates that the volumes will be assigned a value of NOHOLD.

- **DEFAULT:** If you omit the modifier, the default is specified by the `VSET_HOLD` system parameter. If `VSET_HOLD` is TRUE, the attribute is assigned a value of HOLD. If `VSET_HOLD` is FALSE, the attribute is assigned a value of NOHOLD.
- **RESTRICTIONS:** This modifier does not apply to level F volume sets.

/LIBRARY For level L, specifies the library device where the volume set will be created. StorHouse allocates volumes for the volume set from the free pool associated with the library device.

For level F, specifies the free pool indicator, which consists of the second, third, and fourth characters of a level F free pool volume set name. StorHouse selects one or more level F devices (volumes) in this free pool and allocates them to the new volume set.

- **FORMAT:** `/LIBRARY=Lxx` or `/LIBRARY=Fxx`

where `Lxx` is the device identification code for the library-level device with the unit number `xx` (for example, `L00`), and `Fxx` is the free pool indicator (for example, `F00`).

- **DEFAULT:** If you omit `/LIBRARY`, the default is the value of the `DEFAULT_LD` system parameter. If you do not specify this modifier and the system parameter does not specify a valid device, the system rejects the command.

/LIMIT Specifies the maximum number of bytes that this volume set can contain. Note that StorHouse bases LIMIT calculations on the maximum size of a volume for the media type. Some actual volume sizes may be smaller. Therefore, although the volume set's size may fall short of its LIMIT, the volume set may not be allowed to extend.

- **FORMAT:** `/LIMIT=number_of_bytes` or `/LIMIT=0`

A `/LIMIT` of 0 indicates that the maximum size is not limited. If the limit is not zero, the system automatically rounds this value up to the maximum volume size for the medium. Specify the `number_of_bytes` value as `n`, `nK`, `nM`, or `nG`.

The letter `n` represents a numeric field. The value of `n` can range from 0 up to 4294967295. (Do not include commas when specifying a number with more than three digits.) `K` indicates that the number is in 1,000-byte units; `M` indicates 1,000,000-byte units; and `G` indicates 1,000,000,000-byte units. If `K`, `M`, or `G` is not present, the number defaults to 1-byte units.

- DEFAULT: `/LIMIT=0`

`/MEDIA` Specifies the media type and recording type of the free pool volume set for the library device defined by `/LIBRARY`.

- FORMAT: `/MEDIA=mmr`

The media type is identified by the two-character code `mm`. The recording type is identified by the one-character code `r`. The `mmr` can be taken from the volume's `vid`. Valid media and recording types are listed under "Volume Identification Code" on page B-9.

- DEFAULT: If you omit `/MEDIA`, the default is the value of the `DEFAULT_MED_did` system parameter, where `did` is the library device specified by `/LIBRARY`. If you omit `/MEDIA` and the system parameter does not specify a valid media type and recording type, the system rejects the command.

`/SIZE` Specifies the initial number of bytes to be allocated to the volume set.

Note: StorHouse bases size calculations on the maximum size of a volume for the media type. Some actual volume sizes may be slightly smaller. Thus, the actual volume set's size may fall short of the value specified for `/SIZE`.

Level F volume sets do not extend automatically; therefore you must set the size to the maximum desired size when creating the volume set, or use the `SET VSET /SIZE` command to change the `SIZE` when desired.

- FORMAT: `/SIZE=number_of_bytes` or `/SIZE=0`

If the size is not zero, the system rounds the size up to the nearest integer multiple of a physical volume size. If the size is zero, the system allocates no volumes to the volume set until the storage is actually needed.

Specify the `number_of_bytes` value as `n`, `nK`, `nM`, or `nG`.

The letter `n` represents a numeric field. The value of `n` can range from 0 up to 4294967295. (Do not include commas when specifying a number with more than three digits.) `K` indicates that the number is in 1,000-byte units; `M`

indicates 1,000,000-byte units; and G indicates 1,000,000,000-byte units. If K, M, or G is not present, the number defaults to 1-byte units.

- **DEFAULT:** If you omit this modifier, the default is /SIZE=0.
- **RESTRICTIONS:** The value must be less than or equal to the value of /LIMIT after both values have been rounded up.

Examples

- To create the volume set ACCTS00 in the default primary directory, specify that no volumes are to be allocated to ACCTS00 until the storage is actually required (/SIZE=0), specify that the maximum size of the volume set is unlimited (/LIMIT=0), specify that StorHouse will deactivate side A and activate side B nine days after the last file space is allocated on a volume side (/CYCLE=9), specify that StorHouse will no longer allocate space for files on a side five days after the first space on the volume side is allocated to a file (/DEACTIVATE=5), specify that StorHouse will mark a side as deactivated and expired 15 days after the last file space is allocated on that volume side (/EXPIRE=15), specify a default destination backup volume set and file set for files in the new primary volume set, and specify that the system will assign a value of HOLD to the HOLD attribute for volumes allocated to this volume set, enter:

```
? CREATE VSET ACCTS00 /SIZE=0 /LIMIT=0 /CYCLE=9 /DEACTIVATE=5  
/EXPIRE=15 /BKPVSET=ACCTS00 /BKPFSET=ACCTS00 /HOLD
```

The system selects volumes with a value of NOHOLD for migration out of a library device before those with a value of HOLD.

- To create a volume set called NEWVSET in the archive directory of library device 1, enter:

```
? CREATE VSET NEWVSET /DIRECTORY=ARCHIVE /LIBRARY=L01  
/MEDIA=TBB
```

Because you omitted /SIZE, no volumes are allocated to NEWVSET until they are required. When needed, the system will allocate volumes to NEWVSET from the free pool of tape media TBB in library device 1. Omitting /LIMIT gives NEWVSET an unrestricted maximum size. /CYCLE, /DEACTIVATE, and /EXPIRE also default to 0. Therefore, the volumes in NEWVSET will not cycle, deactivate, or expire automatically.

- To create a level F volume set:

Before creating a level F volume set, system administrators must know the name of an available level F free pool volume set for the desired media type. To obtain the name of a level F free pool volume set and determine which volumes are allocated to that free pool, run the SHOW DEVICE command. For example:

```
? SHOW DEVICE F* /FULL
```

```
DEVICE=F00 STATUS=UP MEDIA=(MIA:RW) VSET=MAGDISK  
DIRECTORY=PRIMARY SIZE=63488000KB
```

```
DEVICE=F01 STATUS=UP MEDIA=(MIA:RW) VSET=MAGDISK  
DIRECTORY=PRIMARY SIZE=63488000KB
```

```
DEVICE=F02 STATUS=UP MEDIA=(MEA:RW) VSET=.F00MEA  
DIRECTORY=none SIZE=9989582KB
```

```
DEVICE=F03 STATUS=UP MEDIA=(MEA:RW) VSET=.F00MEA  
DIRECTORY=none SIZE=9989582KB
```

```
DEVICE=F04 STATUS=UP MEDIA=(MEA:RW) VSET=.F00MEA  
DIRECTORY=PRIMARY SIZE=9989582KB
```

In the preceding example, the command output indicates a StorHouse configuration with five level F devices. Devices F00 and F01 are allocated to the MAGDISK volume set. Devices F02, F03, and F04 are assigned to the free pool volume set .F00MEA. You know that .F00MEA is a free pool volume set because its name begins with a period (.).

To create the level F volume set MYVSET with an initial size requirement of 12 GB, and use volumes from free pool .F00MEA, enter:

```
? CREATE VSET MYVSET /LIBRARY=F00 /MEDIA=MEA /SIZE=12GB
```

Note the following:

- /MEDIA specifies the fifth, sixth, and seventh character of the free pool volume set name. These characters indicate the media and recording type of the volumes in free pool .F00MEA.
- StorHouse always allocates whole volumes from the free pool to the volume set being created.
- The output of the SHOW DEVICE command indicates that each level F device in free pool .F00MEA is slightly less than 10 GB. Because the CREATE VSET /SIZE modifier specifies a requirement of 12 GB, StorHouse must allocate two volumes from free pool .F00MEA to satisfy the 12-GB size request.

DELETE

The DELETE command marks a file as deleted.

Format

DELETE filename

COMMAND FORMAT SUMMARY					
COMMAND, PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
DELETE	DELETE	-	-	-	-
/CONFIRM	-	-	-	-	-
/REPORT	-	-	-	-	-
filename	-	D	D	-	(Required)
/DIRECTORY=...	SYSTEM	-	-	-	/DIRECTORY= PRIMARY
/GROUP=...	SETGROUP	D	-	-	Current default
/PASSWORDS=...	-	-	-	-	
/VERSION=...	-	-	-	-	(Required)
/WAIT	-	-	-	-	

Description

The DELETE command marks the specified file as deleted and creates an entry for it in the deleted file directory. If the source directory is the archive or backup directory, the command also updates the primary directory to indicate that the deleted file version is no longer archived/backed up.

The file will no longer be available for use. It is not removed from the deleted file directory until a REMOVE FILE command removes it. You can undelete a deleted file as long as it has not been removed from the deleted file directory. See the UNDELETE command description.

Parameters

filename Specifies the name of the file to be deleted.

- **FORMAT:**
 - filename
 - partial_filename*
 - *

The wild card is valid only if you specify it as the last or only character in the name.

- **DEFAULT:** None; you must specify this parameter.
- **ACCESS REQUIREMENTS:** Delete access to the file.

Command Modifiers

/CONFIRM Controls whether StorHouse asks you to confirm each file to be deleted.

- **FORMAT:** /CONFIRM or /NOCONFIRM
- **DEFAULT:** /NOCONFIRM

When the system requests a confirmation, enter YES (also Y or YE) or NO (also N). If you press **R** or enter any characters other than those described as a YES response, StorHouse interprets them as NO.

If multiple files are to be deleted, the system requests confirmation for each file and allows an END (E or EN) response. END directs the system not to perform the command for the current file and subsequent files.

/REPORT Controls the generation of special text responses for the completion of significant actions. /REPORT instructs StorHouse to generate a text response. /NOREPORT instructs StorHouse not to generate a text response.

- **FORMAT:** /REPORT or /NOREPORT
- **DEFAULT:** /NOREPORT

Parameter Modifiers

- /DIRECTORY** Specifies the directory from which files are to be deleted.
- **FORMAT:**
 - /DIRECTORY=ARCHIVE
 - /DIRECTORY=BACKUP
 - /DIRECTORY=PRIMARY
 - **DEFAULT:** /DIRECTORY=PRIMARY
 - **PRIVILEGE:** To specify a directory other than the primary, you must have SYSTEM privilege.
- /GROUP** Specifies a file access group name and, optionally, group passwords.
- **FORMAT:**
 - /GROUP=groupname<:::deletepw>
 - /GROUP=partial_groupname*
 - /GROUP=*
 - **DEFAULT:**
 - If you omit /GROUP, the default is your current default group and default access rights.
 - If you specify the current default group name and omit the delete password, the defaults for your group access rights apply.
 - If you specify a group name that is not the current default group and omit the delete password, the delete password defaults to null.
 - **ACCESS REQUIREMENTS:** Delete access to the group. You must specify the group delete access password unless:
 - The group is not protected by a delete password.
 - Your privilege bypasses delete access password checks.
 - Your default access to the group includes delete access.
 - **PRIVILEGE:** You must have SETGROUP privilege to specify any group except your default group.

- /PASSWORDS** Specifies the file's delete password.
- **FORMAT:** /PASSWORDS=::deletepw
- You must specify a delete password unless:
- The file is not protected by a delete access password.
 - You have a privilege that bypasses delete access password checks.
- **DEFAULT:** If you omit /PASSWORDS, the password defaults to nulls.
 - **RESTRICTIONS:** /PASSWORDS is not allowed if the file or group name specification includes a wild card.
- /VERSION** Specifies the relative version number (in the directory specified by /DIRECTORY) of the file to be deleted.
- **FORMAT:** /VERSION=version or /VERSION=*
- The value of version can range from 0 through -32767 for primary files. For files in the archive and backup directories, the range is 0 through -65535.
- **DEFAULT:** None; you must specify a version or wild card.
- /WAIT** Instructs StorHouse to wait for a locked file to be unlocked before attempting to use it in the command execution. Without /WAIT, StorHouse returns an error status upon finding that the file is locked. If you specify more than one file, such as with a wild card, /WAIT instructs the system to wait for each one to become available.
- **FORMAT:** /WAIT
 - **DEFAULT:** No /WAIT modifier. StorHouse aborts the command or processing of an item if the specified file version is not available.

Examples

- To delete relative version -2 of the file USERFILE in the BACKUP directory, enter:

```
? DELETE USERFILE /DIRECTORY=BACKUP  
/PASSWORDS=::DELETEPW /VERSION =-2
```

You have delete access to the group in which it is located. The file's delete password is DELETEPW. Because you do not have ANYFILE privilege, you must specify the password.

- To delete all versions of the file VRAMFILE located in the PRIMARY (default) directory, enter:

```
? DELETE VRAMFILE /PASSWORDS=.:DELETEPW /VERSION=*
```

VRAMFILE's delete password is DELETEPW. You have delete access to VRAMFILE's group (the default).

DOWN DEVICE

The DOWN DEVICE command completes current activity on a device and makes it unavailable for use by StorHouse.

Format

DOWN DEVICE did

COMMAND FORMAT SUMMARY					
COMMAND, PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
DOWN DEVICE	OPERATOR	-	-	-	-
/CONFIRM	-	-	-	-	-
/REPORT	-	-	-	-	-
did	-	-	-	-	(Required)

Description

DOWN DEVICE allows current activity on the specified device to complete before making the device unavailable to the system. The system notifies the operator of the change in device status.

The following rules apply when executing DOWN DEVICE:

- You cannot use wild cards in the device specification.
- You must include the level and unit number in the device identifier.
- To down a subunit, specify the device, unit_number, subunit_type, and subunit_number.
- If you down a unit with subunits, such as a library device with an accessor and drives, all component subunits will effectively be DOWN.
- To prevent volumes from being moved into or out of a library device, down the exchange station.
- To prevent volume read/write/verify/label operations, down all drives.
- If you down all of level L, the system will reject all user requests to level L.

You can schedule the DOWN DEVICE command using the SCHEDULE command.

Parameters

did The device identification code specifies the device to be taken down. If you take down a unit that contains subunits, the system treats the component subunits as being DOWN, regardless of their individual states.

- **FORMAT:**
 - {level}{unit_number}<{subunit_type}{subunit_number}>
 - {level}{unit_number}

The braces “{ }” and angle brackets “< >” are not part of the specification. The angle brackets denote optional fields.

- Level consists of one character corresponding to a type of device or storage level. The valid levels are: F, L, S, and N, for fixed, library, shelf, and network, respectively.
- Unit_number consists of two hexadecimal characters where each physically separate device is assigned a unit_number, starting at 00.
- Subunit_type consists of a single character that represents a type of device within a unit. The valid types are A, D, and E, for accessor, drive, and exchange station, respectively. Subunit_type applies to level L only.
- Subunit_number consists of two hexadecimal characters and identifies a specific device or location within a unit.
- **DEFAULT:** None; you must specify this parameter.

Command Modifiers

/CONFIRM Controls whether StorHouse asks you to confirm the command.

- **FORMAT:** /CONFIRM or /NOCONFIRM
- **DEFAULT:** /NOCONFIRM

When the system requests a confirmation, enter YES (also Y or YE) or NO (also N). If you press R or enter any characters other than those described as a YES response, StorHouse interprets them as NO.

/REPORT Controls the generation of special text responses for the completion of significant actions. /REPORT instructs StorHouse to generate a text response. /NOREPORT instructs StorHouse not to generate a text response.

- FORMAT: /REPORT or /NOREPORT
- DEFAULT: /NOREPORT

Examples

- To make library device L00 and its subunits unavailable for use after StorHouse completes current processing on library device 00, enter:

```
? DOWN DEVICE L00
```

- To make drive 0 in library device 0 unavailable for use, enter:

```
? DOWN DEVICE L00D00
```

If a volume is in the drive, the system will dismount the volume and store it in a library slot or move it to another drive. The system will complete any operation that is currently using the drive before dismounting it. The system will not use the drive until it is brought up using the UP DEVICE command.

ENABLE

The ENABLE command enables a disabled file.

Format

ENABLE filename

COMMAND FORMAT SUMMARY					
COMMAND, PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
ENABLE	FILE	-	-	-	-
/REPORT	-	-	-	-	-
filename	-	R, W, or D	R, W, or D	-	(Required)
/DIRECTORY=...	-	-	-	-	/DIRECTORY=PRIMARY
/GROUP=...	SETGROUP	R, W, or D	-	-	Current default
/PASSWORDS=...	-	-	-	-	
/VERSION=...	-	-	-	-	/VERSION=0

Description

ENABLE clears the writeback disabled flag and allocates space for each writeback-disabled extent of the specified file. StorHouse does not try to write back extents marked as writeback disabled; that is, extents that could not be written to their primary file sets.

Parameters

filename Specifies the file name to be enabled.

- FORMAT:
 - filename
 - partial_filename*
 - *

The wild card is valid only if you specify it as the last or only character in the name.

- **DEFAULT:** None; you must specify this parameter.
- **ACCESS REQUIREMENTS:** Read, write, or delete access to the file.

Command Modifiers

/REPORT Controls the generation of special text responses for the completion of significant actions. **/REPORT** instructs StorHouse to generate a text response. **/NOREPORT** instructs StorHouse not to generate a text response.

- **FORMAT:** **/REPORT** or **/NOREPORT**
- **DEFAULT:** **/NOREPORT**

Parameter Modifiers

/DIRECTORY Specifies the directory in which files are to be enabled.

- **FORMAT:**
 - **/DIRECTORY=ARCHIVE**
 - **/DIRECTORY=BACKUP**
 - **/DIRECTORY=PRIMARY**
- **DEFAULT:** **/DIRECTORY=PRIMARY**

/GROUP Specifies a file access group name and, optionally, group passwords.

- **FORMAT:**
 - **/GROUP=groupname:<readpw>:<writepw>:<deletepw>**
 - **/GROUP=partial_groupname***
 - **/GROUP=***
- **DEFAULT:** If you omit **/GROUP**, the default is your default file access group.
- **ACCESS REQUIREMENTS:** Read, write, or delete access to the group.

You must specify at least one group password unless:

- The group is not protected by read, write, or delete passwords.
- Your privilege bypasses read, write, and/or delete access password checks.
- Your default access to the group includes read, write, or delete access.
- **PRIVILEGE:** You must have **SETGROUP** privilege to specify any group except your default group.

`/PASSWORDS` Specifies a file access password to gain access to the file.

- **FORMAT:**
 - `/PASSWORDS=<readpw>:<writepw>:<deletepw>`
 - `/PASSWORDS=<readpw>:writepw`
 - `/PASSWORDS=readpw`

You must specify the file's read, write, or delete password in order to execute this command unless:

- The file is not protected by file passwords.
- Your privilege bypasses the appropriate access password checks.
- **DEFAULT:** If you omit `/PASSWORDS`, the passwords default to nulls.

`/VERSION` Specifies the relative version number of the file to be enabled.

- **FORMAT:** `/VERSION=version` or `/VERSION=*`

The value of version can range from 0 through -32767 for primary files. For files in the archive and backup directories, the range is 0 through -65535.

- **DEFAULT:** `/VERSION=0`

Example

To mark relative version 0 (the default if you omit `/VERSION`) of `USERFILE` as enabled, specify that it is located in `GROUP1` in the primary directory (the default if you do not specify a directory), specify `GROUP1`'s write password as `WRITEPW`, and specify `USERFILE`'s write password as `WRITEPW`, enter:

```
? ENABLE USERFILE /GROUP=GROUP1::WRITEPW
/PASSWORDS=:WRITEPW
```

You must specify a file password and the equivalent type of group password if you lack sufficient privilege to bypass file and group password specification.

ERASE VOLUME

The ERASE VOLUME command erases an erasable optical or magnetic tape volume. This command does not apply to a level F volume.

Format

ERASE VOLUME vid

COMMAND FORMAT SUMMARY					
COMMAND, PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
ERASE VOLUME	ALLOCATION +SYSTEM	-	-	-	-
/CONFIRM	-	-	-	-	/CONFIRM
/REPORT	-	-	-	-	-
vid	-	-	-	-	(Required)

Description

ERASE VOLUME erases an erasable optical or magnetic tape volume. For erasable optical media, it physically erases and initializes (relabels) the volume. For magnetic tape, it initializes (relabels) the volume. The command erases an entire physical volume, including both sides of a two-sided volume.

The volume to be erased must be in the uncataloged state, either just imported or just uncataloged. (See the IMPORT, UNCATALOG VOLUME, or UNCATALOG VSET command description on page 3-138, 3-415, and 3-419, respectively.) When the command first begins to erase the volume, it sets the state of the volume to ERASING. If the command successfully erases the volume, the command places the erased volume in the CATALOGED state.

For erasable optical disk, any files that resided on the erased volume are completely and permanently removed. For magnetic tape, the command relabels the tape volume to make the existing data inaccessible; subsequent writes of new data will overwrite the old data. All space on the erased volume (in other words, both sides of a two-sided volume) is made available for allocation in the volume set. After a volume has been erased, it resembles a volume that was just moved from the free pool into the volume set.

If the command is interrupted by a system failure and the volume is left in the erasing state, enter the command again.

You can schedule the command using the SCHEDULE command.

Parameters

vid Specifies the volume identification code (vid) of the volume to be erased. The volume must be in the uncataloged state.

- **FORMAT:** {media_type}{recording_type}{volume_label}

The braces “{ }” are not part of the specification.

- **DEFAULT:** None; you must specify this parameter.

Command Modifiers

/CONFIRM Controls whether StorHouse asks you to confirm the command.

- **FORMAT:** /CONFIRM or /NOCONFIRM
- **DEFAULT:** /CONFIRM

When the system requests a confirmation, enter YES (also Y or YE) or NO (also N). If you press R or enter any characters other than those described as a YES response, StorHouse interprets them as NO.

/REPORT Controls the generation of special text responses for the completion of significant actions. /REPORT instructs StorHouse to generate a text response. /NOREPORT instructs StorHouse not to generate a text response.

- **FORMAT:** /REPORT or /NOREPORT
- **DEFAULT:** /NOREPORT

Examples

- To erase all information on both sides of erasable optical volume OEB242F38AD, enter:

```
? ERASE VOLUME OEB242F38AD
```

When complete, StorHouse marks the volume as cataloged and makes all space on the volume available for use.

- To erase all information on tape volume TBB1234A1, enter:

```
? ERASE VOLUME TBB1234A1
```

ERASE VSET

The ERASE VSET command erases erasable optical or magnetic tape volumes in a volume set. This command does not apply to level F volume sets.

Format

ERASE VSET vset_name

COMMAND FORMAT SUMMARY					
COMMAND, PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
ERASE VSET	ALLOCATION +SYSTEM	-	-	-	-
/CONFIRM	-	-	-	-	/CONFIRM
/REPORT	-	-	-	-	-
vset_name	-	-	-	-	(Required)

Description

ERASE VSET erases erasable optical or magnetic tape volumes in a volume set. For erasable optical media, it physically erases and initializes (relabels) the volumes. For magnetic tape, it initializes (relabels) the volumes. The command erases an entire physical volume, including both sides of a two-sided volume.

The volumes to be erased must be in the uncataloged state, either just imported or just uncataloged. (See the IMPORT or UNCATALOG VSET command description on page 3-138 and page 3-419, respectively.) Any volumes that are not in the uncataloged state are not processed. When the command first begins to erase a volume, it sets the state of the volume to ERASING. If the command successfully erases the volume, the command places the erased volume in the CATALOGED state.

For erasable optical disk, any files that resided on the erased volumes are completely and permanently removed. For magnetic tape, the command relabels the tape volume to make the existing data inaccessible; subsequent writes of new data will overwrite the old data. All space on the erased volumes (in other words, both sides of a two-sided volume) is made available for allocation in the volume set. After a volume has been erased, it resembles a volume that has just been moved from the free pool into the volume set.

If the command is interrupted by a system failure and one or more volumes are left in the erasing state, enter the command again.

You can schedule the command using the SCHEDULE command.

Parameters

- vset_name Specifies the volume set of the volumes to be erased.
- FORMAT: vset_name
 - DEFAULT: None; you must specify this parameter.

Command Modifiers

- /CONFIRM Controls whether StorHouse asks you to confirm the command.

- FORMAT: /CONFIRM or /NOCONFIRM
- DEFAULT: /CONFIRM

When the system requests a confirmation, enter YES (also Y or YE) or NO (also N). If you press R or enter any characters other than those described as a YES response, StorHouse interprets them as NO.

- /REPORT Controls the generation of special text responses for the completion of significant actions. /REPORT instructs StorHouse to generate a text response. /NOREPORT instructs StorHouse not to generate a text response.

- FORMAT: /REPORT or /NOREPORT
- DEFAULT: /NOREPORT

Example

To erase all information on the uncataloged volumes in the USERVSET volume set, enter:

```
? ERASE VSET USERVSET
```

When complete, StorHouse marks the volumes as cataloged and makes all space on the volumes available for use.

EXECUTE STH_LOAD

The EXECUTE STH_LOAD command activates the StorHouse server data loader component. Once activated, the server data loader executes SQL statements and loads data into StorHouse database tables.

Note You must have the optional StorHouse/RM software installed on StorHouse to run this command.

Format

EXECUTE STH_LOAD database_name datastream_filename

EXECUTE STH_LOAD /END

COMMAND FORMAT SUMMARY					
COMMAND, PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
EXECUTE STH_LOAD	SQLCOMMAND	-	-	-	-
/END ¹	-	-	-	-	-
/LOADIDENT=...	-	-	-	-	See text
/OPER_TYPE=... ²	-	-	-	-	/OPER_TYPE=LOAD
/RESTART=... ³	-	-	-	-	-
database_name	-	-	R ⁴	-	See text
datastream_filename ⁵	-	R	R ⁶	-	See text
/GROUP=...	SETGROUP	R	-	-	Current default

1 /END is deprecated for StorHouse/RM 3.0 and replaced by /OPER_TYPE=CONFIRM.

2 /OPER_TYPE is used only with StorHouse/RM Release 3.0 and above.

3 /RESTART is deprecated for StorHouse/RM 3.0 and replaced by /OPER_TYPE.

4 You must have INSERT privilege on the tables you are loading.

5 Contact your SGI customer support representative for the required format of the data stream file.

6 You must have the StorHouse privilege SQLEXECUTE to execute SQL commands in the data stream.

Description

The EXECUTE STH_LOAD command activates the StorHouse server data loader on StorHouse. Once activated, the server data loader executes SQL statements and loads data into database tables on StorHouse.

Once initiated, the StorHouse data loader connects to the database you specified in the `database_name` parameter, reads the VRAM file you specified in the `datastream_filename` parameter, converts the format of the information into a format that the StorHouse/RM software can read, and passes the data to StorHouse/RM for mass insertion into one or more database tables.

The target database and the target table(s) must already exist in the database you specified in the `database_name` parameter. SQL statement records in the data stream identify the database table or tables to be loaded.

StorHouse returns error messages, statistics messages, and return codes to you through your Callable Interface command link via LSMMSG or EMSG or, if you are using the Interactive Interface, your terminal.

You must create the data stream before invoking the EXECUTE STH_LOAD command. The data stream must be a sequence of control records and data records. If you are using a utility, such as the SGI FTP or MVS data loader utility, the data loader utilities accomplish these steps for you. In this case, you do not use the EXECUTE STH_LOAD command.

Note The EXECUTE STH_LOAD command cannot be scheduled using the SCHEDULE command.

Parameters

`database_name` Specifies the name of the StorHouse database into which the data will be loaded.

- `FORMAT: database_name`

The name must be a valid SQL identifier, which is limited to a maximum of 32 characters and must adhere to the following rules:

- Start with a letter
- Consist of the characters a-z, A-Z, 0-9, and _ (underscore). (If the name contains lowercase characters, it must be enclosed in quotes.)
- `DEFAULT: None`; you must specify this parameter unless you specify the `/OPER_TYPE=CONFIRM` or `/END` modifier.
- `RESTRICTIONS:`
 - The specified database must already exist.
 - The `database_name` must adhere to the naming conventions of the local database. (For example, if the StorHouse data is being retrieved from an IBM MVS DB2 environment, then the `database_name` must be no longer than 16 characters and must be entered in uppercase.)

`datastream_`
`filename` Specifies the name of the StorHouse VRAM file that contains the data stream to be processed by the StorHouse data loader.

- **FORMAT:** filename

StorHouse file names must contain 1 to 56 printable ASCII characters. At least one character must be non-blank. StorHouse translates lowercase letters to uppercase letters and compresses multiple consecutive spaces to a single space unless the spaces are enclosed in quotes. File names containing special characters (defined in Chapter 2) must be enclosed in quotes, unless the characters are any of the following:

[] : \$. ; _

You can use the quote symbol (") in the file name as long as you enclose the name in quotes and you place two quotes (" ") wherever one quote (") is to appear.

- **FORMAT RESTRICTIONS:** The file name must not contain two hyphens in a row (--) unless the file name is enclosed in quotes.
- **DEFAULT:** None; you must specify this parameter unless you specify the /END modifier.
- **ACCESS REQUIREMENTS:** Read access to the StorHouse file.

Note: You must have the StorHouse privilege SQLEXECUTE to execute any SQL statements in the data stream file and the StorHouse INSERT privilege on any table you are loading.

- **RESTRICTIONS:** This parameter is ignored if you specify the /END modifier.

Command Modifiers

`/END` (For StorHouse/RM 3.0, `/OPER_TYPE=CONFIRM` replaces `/END`.) Completes the current or specified (using the `database_name` parameter and the `/LOADIDENT` modifier) load operation for this StorHouse session and drops all restart information for the load operation.

- **FORMAT:** /END
- **DEFAULT:** If you omit `/END`, the StorHouse data loader assumes that the command is a new load operation or a restart.
- **RESTRICTIONS:**
 - The `/END` modifier is mutually exclusive with `/RESTART`.

- If you specify the /END modifier, the system ignores the `datastream_filename` parameter (if it is specified).

/LOADIDENT Identifies the specific load operation to which this command applies.

- **FORMAT:** /LOADIDENT=`load_identification_name`

The `load_identification_name` is a name that is unique among all other current load operations and all past load operations that have not completed (that is, the system still retains checkpoint information for them) in a database. The name must comply with the following naming conventions:

- Contain no more than 40 characters
- Consist of the following ASCII characters: a-z, A-Z, 0-9, and `_` (underscore).
- **DEFAULT:** None; you must specify this modifier unless you specify the /END modifier.
- **RESTRICTIONS:** None.

/OPER_TYPE (For StorHouse/RM Release 3.0 and above.) Specifies the type of load operation.

- **FORMAT:**

- /OPER_TYPE=LOAD
- /OPER_TYPE=RESTART
- /OPER_TYPE=ABORT
- /OPER_TYPE=STATUS
- /OPER_TYPE=CONFIRM
- /OPER_TYPE=VALIDATE
- /OPER_TYPE=UNLOAD

- **DEFAULT:** /OPER_TYPE=LOAD

- **RESTRICTIONS:**

- **RESTART** re-executes the statement for normal load (LOAD) operations. For LOAD INDEX and COALESCE statements, it performs an ABORT operation and then re-executes the statement.
- **ABORT** cleans up the last in-progress statement. For LOAD INDEX and COALESCE statements, it cleans up only the last in-progress segment.
- **CONFIRM** deletes checkpoint information. For LOAD INTO statements, it also performs a COMMIT.
- The **VALIDATE** value parses the data stream to check for data or control file errors. You can use the VALIDATE value for LOAD INTO and COALESCE statements, but not for LOAD INDEX statements.

`/RESTART` (For StorHouse/RM 3.0, `/OPER_TYPE` replaces `/RESTART`.) The `/RESTART` modifier controls the recovery of a load operation that did not complete.

The `/RESTART=NORMAL` modifier indicates that the system is to use the information in this command to restart a previous load operation that did not complete normally. The load operation must have been named (using the `/LOADIDENT` modifier) in a prior `EXECUTE STH_LOAD` command in this or a previous StorHouse session. The system uses the `/LOADIDENT` modifier value in this command to select the last successful checkpoint that corresponds to the `/LOADIDENT` value and restarts the load operation at that point.

The `/RESTART=ABORT` modifier removes checkpoint information for the uncompleted load operation as well as any table segments created by the operation.

The `/RESTART=STATUS` modifier displays status information for any loads (completed and in-progress) that match the given database name and load identification.

- **FORMAT:**
 - `/RESTART=NORMAL`
 - `/RESTART=ABORT`
 - `/RESTART=STATUS`
- **DEFAULT:** If you omit the `/RESTART` modifier, the system does not try to restart a previous load operation.
- **RESTRICTIONS:**
 - The `database_name` and `/LOADIDENT` values are required.
 - When `RESTART=NORMAL` or `ABORT`, you must use the same `/LOADIDENT` value in this command as was used to identify the original load operation.
 - When `RESTART=STATUS`, the `/LOADIDENT` value can contain wildcard characters. An asterisk (*) represents 0 or more characters, and a percent sign (%) represents any one character.
 - The `/RESTART` and `/END` modifiers are mutually exclusive.
 - When you specify `/RESTART=NORMAL`, you must specify the `datastream_name` used in the `EXECUTE STH_LOAD` command that was submitted immediately before the operation was interrupted; otherwise, StorHouse returns an error.

datastream_filename Parameter Modifiers

- /GROUP** Specifies a file access group name and, optionally, the group's read password.
- **FORMAT:** /GROUP=groupname
 - **FORMAT RESTRICTIONS:** Wild cards are not allowed in the group name.
 - **ACCESS REQUIREMENTS:** Read access to the group.
 - **DEFAULT:** If you omit /GROUP, the default is your current default group and default access rights.
 - **PRIVILEGE:** You must have SETGROUP privilege to specify any group except your default group.

Examples

Contact your SGI customer support representative for examples on data load operations.

EXPORT

The EXPORT command removes part or all of a level L or level S volume set from StorHouse. Each physical volume to be exported must be in the uncataloged state.

Format

EXPORT vset_name

COMMAND FORMAT SUMMARY					
COMMAND, PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
EXPORT	ALLOCATION +SYSTEM	-	-	-	-
/CONFIRM	-	-	-	-	/CONFIRM
/REPORT	-	-	-	-	-
vset_name	-	-	-	-	See text
/DIVIDE=...	-	-	-	-	-

Description

EXPORT removes all information from the directory for any volume exported. It moves each exported volume to the exchange station, and instructs the operator to unload each volume. All volumes being exported must be in the uncataloged state, either just imported or just uncataloged. (See the IMPORT or UNCATALOG VSET command description on page 3-138 and 3-419, respectively.) If any volume, volume directory information, or volume set directory information cannot be removed from the system, the command returns an error response.

If you omit /DIVIDE, the command removes the entire volume set from StorHouse. The command exports all volumes in the set and removes the volume set information from the directory.

If you specify /DIVIDE, EXPORT removes the specified volume or, if you do not specify a volume, it removes all uncataloged volumes. EXPORT does not remove the volume set information from the directory even if the volume being exported is the only volume in the set.

If you export an empty volume, EXPORT will release it to the free pool rather than export it from the system.

Free pool volume sets cannot be exported, but a volume from a free pool can be exported using the /DIVIDE modifier. Level F volumes and volume sets cannot be exported.

StorHouse allows only one EXPORT command to be executed at a time for the entire system.

You can schedule this command using the SCHEDULE command. When exporting a barcode volume from a library, the EXPORT command does not wait for the volume to be physically output from the library before the command completes (and the “?” prompt is issued).

If you enter EXPORT from the StorHouse console or from any user terminal without using SCHEDULE, the command prompt (?) does not return until the unload volume requests have been satisfied on another StorHouse session. Using SCHEDULE prevents conflicts with the unload requests.

Parameters

- vset_name Specifies the volume set from which volumes are to be exported. All volumes being exported must be in the uncataloged state (just imported or just uncataloged).
- FORMAT: vset_name
 - DEFAULT: None; you must specify this parameter unless you specified the /DIVIDE modifier with a specific volume.
 - RESTRICTIONS: You cannot specify level F volume sets.

Command Modifiers

- /CONFIRM Controls whether StorHouse asks you to confirm the command.
- FORMAT: /CONFIRM or /NOCONFIRM
 - DEFAULT: /CONFIRM
- When the system requests a confirmation, enter YES (also Y or YE) or NO (also N). If you press R or enter any characters other than those described as a YES response, StorHouse interprets them as NO.

- /REPORT Controls the generation of special text responses for the completion of significant actions. /REPORT instructs StorHouse to generate a text response. /NOREPORT instructs StorHouse not to generate a text response.
- FORMAT: /REPORT or /NOREPORT

- DEFAULT: /NOREPORT

Parameter Modifiers

/DIVIDE Specifies a volume to be exported and specifies that the volume is to be divided from a volume set. The specified volume must be uncataloged.

When you specify /DIVIDE, the command does not remove the volume set from the directory even if the volume being exported is the only volume in the set.

- FORMAT:
 - /DIVIDE
 - /DIVIDE={media_type}{recording_type}{volume_label}

If you specify /DIVIDE without a volume identification code, the command exports any uncataloged volumes in the set, but it does not export cataloged volumes nor does it remove the volume set from the directory.

If you specify /DIVIDE with a volume identification code, the command exports the specified volume (which must be uncataloged) and retains the volume set in the directory. You do not have to specify the `vset_name` parameter when you specify /DIVIDE with a volume identification code.

- DEFAULT: If you omit /DIVIDE, EXPORT does not divide the volume set. If all volumes in the volume set are uncataloged, it exports all volumes in the set and removes the volume set from the directory.

Examples

- To instruct StorHouse to export the volume set USERVSET, enter:

```
? EXPORT USERVSET
```

All volumes in USERVSET must be uncataloged. The system removes the directory information for USERVSET and all its volumes from the directories. It also directs the operator to unload each of USERVSET's volumes from its library device or shelf.

- To instruct StorHouse to export all uncataloged volumes in the volume set VSET2, and to specify that the uncataloged volumes will be exported but that directory information for VSET2 will be retained (/DIVIDE), enter:

```
? EXPORT VSET2 /DIVIDE
```

The command has no effect on any cataloged volumes.

- To instruct StorHouse to export only the optical volume OADC1234567 in the volume set VSET2, you must add a volume identifier to /DIVIDE, as follows:

```
? EXPORT VSET2 /DIVIDE=OADC1234567
```

This volume must have been uncataloged. Directory information for VSET2 is retained.

EXTRACT DIRECTORY

The EXTRACT DIRECTORY command copies StorHouse directory information to a set of *directory extraction files*, which are a type of StorHouse user files.

EXTRACT DIRECTORY is used with the RESTORE DIRECTORY command for disaster recovery. Before using these commands, you need to plan your strategy for disaster recovery. For information on how to do this, ask your SGI customer support representative for a copy of *StorHouse Recovery Strategies*, publication number 900117. SGI recommends that you develop volume set, file set, custom volume label, file access group, and file naming conventions that will prevent name conflicts if you extract directory information from multiple StorHouse systems and restore it into one StorHouse system.

You can restore full or incremental directory extraction files on a destination StorHouse system running either the same or a later release of StorHouse software as the source system. For example, if you extract files from a StorHouse system running StorHouse Release 5.1, you can only restore those files on a StorHouse system running StorHouse Release 5.1 or higher.

Note: Before you issue the EXTRACT DIRECTORY command, issue the BACKUP command to write back all file extents in the performance buffer to their primary file sets.

Format

EXTRACT DIRECTORY

COMMAND FORMAT SUMMARY					
COMMAND, PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
EXTRACT DIRECTORY	SYSTEM	-	-	-	-
/CONFIRM	-	-	-	-	/CONFIRM
/GROUP=...	SETGROUP	-	-	-	Current default
/INCREMENTAL	-	-	-	-	-
/REPORT	-	-	-	-	-
/RETENTION=...	-	-	-	-	DEFAULT
/TO_FSET=...	-	-	-	-	Current default
/TO_VSET=...	-	-	-	-	Current default
/VTF=...	VTF	-	-	-	VTF system parameter

Description

The EXTRACT DIRECTORY command extracts (copies) StorHouse directory information and stores it in directory extraction files. For level L, extraction files contain volume set, file set, volume, file access group, file version, file extent, and account information for files in the PRIMARY, BACKUP, and ARCHIVE directories. For level F, extraction files contain only file set and volume set information.

The command stores the information in VRAM RECORD files in a format that allows you to transport and restore the information to another StorHouse system. This is logically equivalent to transporting all removable volumes from one site to another and importing and cataloging the volumes into the destination StorHouse system. However, directory transport has two major advantages over importing and cataloging volumes:

- You can restore all of the source StorHouse system's primary, backup, and archive directory information into the destination StorHouse system without having to transport and load all of the volumes from the source StorHouse system into the destination StorHouse system.
- The information from a full directory extraction contains any changes made to the directory after the data volumes were written. Some changes (such as a new VTF value) are not written to a volume until a new file extent is written. Thus, if a VTF value was changed after a file was written to a volume, the new VTF value would not be on the volume, but would be in the directory. In addition, some directory information is never written to volumes, such as a volume's mount count. Therefore, full directory extractions provide more up-to-date information than the information recovered from volumes when they are imported and cataloged.

The modifiers used with EXTRACT DIRECTORY give you command flexibility. For example, you can specify the /TO_VSET and /TO_FSET modifiers to indicate the volume set and file set that will contain the extraction files. In addition, you can specify the /VTF modifier to assign a VTF value to the extraction files and the /GROUP modifier to maintain independent sets of extraction files in different file access groups.

Each successful EXTRACT DIRECTORY command creates one *extraction control file*. It also creates one *extraction Volume Table of Contents (VTOC) file* for each volume side for which file information is extracted. The contents of the control file identify groups, volume sets, file sets, volumes, accounts, and all VTOC files associated with the extraction. The VTOC file is similar to a VTOC for a volume, which identifies the file extents stored on the volume and their associated file version, group, file set, and volume set information.

The command always creates extraction control and extraction VTOC files for all current information unless you include the /INCREMENTAL modifier. When you specify /INCREMENTAL, StorHouse uses information from the most recent extraction control file (in the file access group specified by /GROUP) to determine

what significant directory information has changed, and then it creates additional extraction files to include the changes. The command always creates a new extraction control file when you specify `/INCREMENTAL`. However, some changes (such as a new VTF value) are not written to a new extraction VTOC file until the contents of a volume changes (for example, extents are added or removed since the previous extraction). Thus, if a VTF value was changed after an extraction VTOC file was written, this information would not be in the latest extraction VTOC file, but would be in the directory. Therefore, you must perform a full extraction (that is, no `/INCREMENTAL` modifier) to capture all directory changes.

Note: If a volume is in any state other than cataloged, the command saves the current volume state and other volume information, but it does not generate a VTOC file for the volume. That is, it does not extract directory information for file extents on the volume.

Each successful `EXTRACT DIRECTORY` command returns an identifier that is based on the date and time of the extraction. The identifier is included in the StorHouse file name of each extraction file created by the command. Control file names have the following format, where `yyyymmddhhmmss` is the identifier consisting of the year (yyyy), month (mm), day (dd), hour (hh), minute (mm), and second (ss):

`SM.DIR.EXTR.CTRL.yyyymmddhhmmss`

VTOC file names have the following format, where `yyyymmddhhmmss` is the identifier, `mmr` is the media type and recording type of the volume, `label` is the volume label, and `side` is the volume side indicator:

`SM.DIR.EXTR.VTOC.yyyymmddhhmmss.mmr.label.side`

The last three parts of the name are from the volume identification code (`vid`) of the volume.

`EXTRACT DIRECTORY` also creates several files that are intended for use by SGI customer support personnel. The file names have the following format, where `yyyymmddhhmmss` is the identifier, and `sysfile` is the name of the corresponding system file:

`SM.DIR.EXTR.sysfile.yyyymmddhhmmss`

You can invoke the `EXTRACT DIRECTORY` command interactively, or schedule it to run periodically or at a specific time using the `SCHEDULE` command.

Command Modifiers

/CONFIRM Controls whether StorHouse asks you to confirm the command.

- **FORMAT:** /CONFIRM or /NOCONFIRM
- **DEFAULT:** /CONFIRM

When the system requests a confirmation, enter YES (also Y or YE) or NO (also N). If you press R or enter any characters other than those described as a YES response, StorHouse interprets them as NO.

/GROUP Specifies the file access group name in which the command will create extraction files. The specified group must exist.

- **FORMAT:** /GROUP=groupname
- **FORMAT RESTRICTIONS:** Wild cards are not allowed in the group name.
- **DEFAULT:** If you omit /GROUP, the default is your current default group.
- **PRIVILEGE:** SETGROUP is required to specify any group except your default group.

/INCREMENTAL /INCREMENTAL indicates that the command will perform an incremental directory extraction. An incremental extraction creates a full extraction control file but will create new extraction VTOC files only for volumes that have significant changes, such as new or newly removed extents, since the last set of extraction files was written to the group indicated by /GROUP.

- **FORMAT:** /INCREMENTAL
- **DEFAULT:** If you omit the modifier, the command extracts all current information.

/REPORT Controls the generation of special text responses for the completion of significant actions. /REPORT instructs StorHouse to generate a text response for each action and to include summary statistics at the end. /NOREPORT instructs StorHouse not to generate a text response or summary statistics for each action.

- **FORMAT:** /REPORT or /NOREPORT
- **DEFAULT:** /NOREPORT

/RETENTION Specifies the retention attribute (retention period) for the files created by the EXTRACT DIRECTORY operation.

- **FORMAT:**

Option	Description
<code>/RETENTION=DEFAULT</code>	Sets the retention period to the default value.
<code>/RETENTION=number_of_days</code>	<p>Sets the file retention period to the specified number of days. The retention period ends when the current date is beyond the file's last_modified date plus the specified retention value.</p> <p>A value of 0 indicates no retention period (same as specifying ZERO).</p> <p>Example: <code>/RETENTION=3</code></p> <p>In this example, the retention period is 3 days. The retention period for a file that was last modified at 11 p.m. on December 12 expires at 11 p.m. on December 15.</p>
<code>/RETENTION=ZERO</code>	Sets no retention period, which indicates the file may be deleted.
<code>/RETENTION=FOREVER</code>	Sets an infinite retention period, which indicates the file may never be deleted.

- **DEFAULT:** If you omit `/RETENTION` or specify `/RETENTION=DEFAULT`, StorHouse determines the default file retention attribute as follows:
 - If the file's resident file set has a retention attribute equal to `FOREVER`, `ZERO`, or a specified number of days, the file set retention attribute determines the default file retention attribute.
 - If the file's resident file set has a retention attribute of `DEFAULT`, the `RETENTION_MODE` system parameter determines the default file retention attribute. If `RETENTION_MODE` is set to `BASIC`, the default file retention is `ZERO`. If `RETENTION_MODE` is set to `STRICT`, the default file retention is `FOREVER`.
- **RESTRICTIONS:** None.

`/TO_FSET` Specifies the file set in which the extraction files will be created.

- **FORMAT:** `/TO_FSET=fset_name`
- **FORMAT RESTRICTIONS:** Wild cards are not allowed.
- **DEFAULT:** If you omit `/TO_FSET`, the default is your current default file set.
- **RESTRICTIONS:** The file set given by `/TO_FSET` must exist in the volume set given by `/TO_VSET`.

- /TO_VSET** Specifies the volume set in which the extraction files will be created.
- **FORMAT:** /TO_VSET=vset_name
 - **FORMAT RESTRICTIONS:** Wild cards are not allowed.
 - **DEFAULT:** If you omit /TO_VSET, the default is your current default volume set.
 - **RESTRICTIONS:** The volume set you specify for /TO_VSET must be in the PRIMARY directory.
- /VTF** Specifies the Vulnerability Time Factor (VTF) attribute of the extraction files to be created.
- **FORMAT:** /VTF=NEXT, /VTF=NOW, or /VTF=DIRECT
- If you specify /VTF=NEXT, the extraction files are written to the performance buffer. The next time a backup occurs, the files are copied to their primary file set.
- If you specify /VTF=NOW, the extraction files are written to the performance buffer and then copied to their primary file set before the command completes.
- If you specify /VTF=DIRECT, the extraction files are written directly to their primary file set, bypassing the performance buffer.
- **DEFAULT:** If you omit /VTF, the default is the value of the VTF system parameter.
 - **PRIVILEGE:** Requires VTF privilege.

Examples

In the following examples, the EXTRACT DIRECTORY command displays a report for each volume set, file set, file access group, volume, and account processed, as well as a set of summary statistics. This information is in addition to the information displayed by /REPORT.

- To initiate a directory extraction that saves all current information in StorHouse files in group SMDIR1 directly in volume set SMDIR1 and file set SMDIR1 (bypassing the performance buffer), retains the extraction files for 180 days, and requests text responses, enter the following:

```
EXTRACT DIRECTORY /VTF=DIRECT /REPORT /GROUP=SMDIR1  
/TO_VSET=SMDIR1 /TO_FSET=SMDIR1 /RETENTION=180
```

The command responds with the following message, which specifies the date (20000130, which equals January 30, 2000) and time (140201, which equals 2:02:01 pm) of the extraction:

Extract Directory, ID = 20000130140201, created 30-JAN-2000:14:02:01

- To initiate an incremental directory extraction that saves all information changed since the previous directory extraction in StorHouse files in your default group, volume set, and file set using the default VTF (the value of system parameter VTF) and to request text responses, enter the following:

```
EXTRACT DIRECTORY /INCREMENTAL /REPORT
```

The command responds with the following message, which specifies the date (20000202, which equals February 2, 2000) and time (140402, which equals 2:04:02 pm) of the directory extraction:

Extract Directory, ID = 20000202140402, created 02-FEB-2000:14:04:02
(Using Incremental ID = 20000201150000, created 01-FEB-2000:15:00:00)

GET

The GET command transfers a copy of a file stored in StorHouse to your host.

Format

GET filename

COMMAND FORMAT SUMMARY					
COMMAND, PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
GET	GET	-	-	-	-
/CONFIRM	-	-	-	-	-
/REPORT	-	-	-	-	/REPORT
filename	-	R	R ¹	-	(Required)
/DATA=...	-	-	-	-	-
/GROUP=...	SETGROUP	R	-	-	Current default
/HOSTNAME=...	-	-	1	-	-
/LOCK	LOCK	-	-	-	-
/NEW	-	-	-	-	-
/PASSWORDS=...	-	-	-	-	-
/REPLACE	-	-	-	-	-
/RESTORE	-	-	-	-	-
/VERSION=...	-	-	-	-	-
/WAIT	-	-	-	-	-

1=Requires write access to host file

Description

GET creates the specified file on the host and transfers a copy of it from StorHouse to the host. If the file already exists on the host, a new version of the file is created. If the host does not support file versions or if you specify /NEW, the system returns an error response. The file name parameter specifies which StorHouse file is transferred to the host and the name of the destination file on the host, unless you specify /HOSTNAME or /RESTORE.

The Host Interface determines whether it can create a copy of the file on the host based upon format information from the StorHouse file directory. If the File Transfer Interface contains a translation module that is compatible with the file's format, the

Interactive Interface initiates the transfer. If not, the Interactive Interface sends you an error message.

StorHouse creates the file on the host using a host file format that is compatible with the file's organization—that is, its file type, host type, and file system type. If the file's organization is incompatible with the StorHouse host software, the system rejects the GET. (Refer to “File and Record Format Identification” on page 1-7 for more information.)

Parameters

- filename Specifies which StorHouse file is to be transferred to the host and the name of the destination file on the host. You cannot specify VRAM files in this command.
- **FORMAT:** filename
 - **DEFAULT:** None; you must specify this parameter.
 - **ACCESS REQUIREMENTS:** Read access to the StorHouse file and write access to the destination file on the host.
 - **RESTRICTIONS:** If specified, /HOSTNAME or /RESTORE helps to determine how the system uses the parameter to derive the StorHouse and host file names. See the /HOSTNAME and /RESTORE descriptions on pages 3-128 and 3-133, respectively.
 - **HOST DEPENDENCIES:** An IBM MVS host user can PUT a dataset with a host-dependent record format if the Data Facility Data Set Services (DFDSS) utility has been installed on the host. When the file is retrieved using GET, the format of the host dataset is the same as it was when the dataset was PUT to StorHouse. For hosts with DFDSS, the format can be ASCII, BINARY, or host-dependent; for all other IBM MVS hosts, it is either ASCII or BINARY.

The UNIX Interactive Interface host supports transportable ASCII and host-dependent formats, but it does not support transportable BINARY format.

Command Modifiers

/CONFIRM Controls whether StorHouse asks you to confirm the command.

- **FORMAT:** /CONFIRM or /NOCONFIRM
- **DEFAULT:** /NOCONFIRM

When the system requests a confirmation, enter YES (also Y or YE) or NO (also N). If you press R or enter any characters other than those described as a YES response, StorHouse interprets them as NO.

/REPORT Controls the generation of special text responses for the completion of significant actions. /REPORT instructs StorHouse to generate a text response. /NOREPORT instructs StorHouse not to generate a text response.

- **FORMAT:** /REPORT or /NOREPORT
- **DEFAULT:** /REPORT

Parameter Modifiers

/DATA Specifies IBM MVS host-specific parameters that control the dataset created by GET.

- **FORMAT:** /DATA="Keyword<=value>, ..."

Valid values for keyword<=value> are:

- **VOLUME=volser**, which specifies that the dataset will be allocated on the host volume with the specified volume serial number.
- **UNIT=unit**, which specifies the unit name for the host dataset allocation. If you do not specify this value, the system uses SYSALLDA.
- **RELEASE**, which specifies that unused space in the dataset is released after the GET operation completes.
- **DEFAULT:** No /DATA modifier.
- **HOST DEPENDENCIES:** /DATA is used only by IBM MVS hosts.

/GROUP Specifies a file access group name and, optionally, the group's read password.

- **FORMAT:**
 - /GROUP=groupname
 - /GROUP=groupname:readpw

- **FORMAT RESTRICTIONS:** Wild cards are not allowed in the group name.
- **ACCESS REQUIREMENTS:** Read access to the group. You must specify the group access read password unless:
 - The group is not protected by a read password.
 - Your privilege bypasses read access password checks.
 - Your default access to the group includes read access.
- **DEFAULT:**
 - If you omit /GROUP, the default is your current default group and default access rights.
 - If you specify the current default group name and omit the read password, the defaults for your group access rights apply.
 - If you specify a group name that is not the current default group and omit the read password, the read password defaults to null.
- **PRIVILEGE:** You must have SETGROUP privilege to specify any group except your default group.

/HOSTNAME The combination of the filename and /HOSTNAME specify a StorHouse file and a host file to be used in the command. Appendix B, “Data Field, Parameter, and Modifier Definitions” discusses the /HOSTNAME file specification in detail.

If you assign the optional `host_filespec` to HOSTNAME, the StorHouse host interface translates or expands the `host_filespec` on the host in your current environment to produce a host file specification. The host interface uses the result to specify a file in the host only. StorHouse uses the filename to specify a file in StorHouse. If either file specification is not valid, StorHouse returns an error response.

/HOSTNAME always modifies a filename and can have a host file specification assigned to it.

- **FORMAT:**
 - filename /HOSTNAME
 - filename /HOSTNAME=host_filespec

The filename and `host_filespec` can contain 1 to 56 printable ASCII characters. At least one character must be non-blank.

StorHouse translates lowercase letters to uppercase letters and compresses multiple consecutive spaces to a single space, unless you enclose these characters in quotes. Because lowercase letters are distinct from uppercase, you must enclose lowercase letters in quotes if they are part of the filename or `host_filespec`. You

must enclose all special characters in quotes. (Chapter 2, “Using StorHouse Command Language” lists and defines these special characters.)

- **FORMAT RESTRICTIONS:** Wild cards are not allowed in the filename or host_filespec.
- **DEFAULT:** If you do not specify /HOSTNAME, StorHouse uses the filename to specify a file in StorHouse. The host interface also uses the filename as if it were a host_filespec assigned to /HOSTNAME, as described above.

If you specify /HOSTNAME without the optional host_filespec, the host interface uses the filename as if it were a host_filespec assigned to /HOSTNAME, as described above. In addition, the interface returns all or part of the translated host file specification to StorHouse to specify a file in StorHouse in place of the filename. (The host interface determines which parts are returned.)

- **ACCESS REQUIREMENTS:** Read access to the StorHouse file and write access to the host file.
- **HOST DEPENDENCIES:** The IBM MVS Host Interactive Interface uses standard TSO prefixing to translate host_filespec to a dataset specification. This includes the ability to avoid prefixing by enclosing host_filespec in apostrophes. In addition, the Interface translates all host_filespec values to upper case and, if you do not specify the StorHouse file name, the Interface passes the entire translated host dataset specification to StorHouse to be used as the file name. If the host dataset name includes a member name, for example, x.y(z), you must enclose the entire name in quotes. Table 3-3 illustrates StorHouse – IBM MVS dataset name translation. The examples in Table 3-3 assume that your TSO prefix is U1.

Table 3-3: StorHouse – IBM MVS Dataset Name Translation

Parameter/Modifier	StorHouse File Name	IBM MVS Data Set
FA.FB /HOSTNAME=F1.F2	FA.FB	U1.F1.F2
FA.FB /HOSTNAME='F1.F2'	FA.FB	F1.F2
FA.FB /HOSTNAME='U1.F1.F2'	FA.FB	U1.F1.F2
U1.F1.F2 /HOSTNAME=F1.F2	U1.F1.F2	U1.F1.F2
'F1.F2' /HOSTNAME=F1.F2	'F1.F2'	U1.F1.F2
F1.F2	F1.F2	U1.F1.F2
U1.F1.F2	U1.F1.F2	U1.U1.F1.F2
'F1.F2'	'F1.F2'	F1.F2
F1.F2 /HOSTNAME	U1.F1.F2	U1.F1.F2
U1.F1.F2 /HOSTNAME	U1.U1.F1.F2	U1.U1.F1.F2
'F1.F2' /HOSTNAME	F1.F2	F1.F2

The UNIX Host Interactive Interface translates file names using the standard UNIX rules of environment variable substitution. No other processing is performed. Any path names that you specify in `host_filespec`, either explicitly or as the result of variable substitution, are used as part of the file specification.

Table 3-4 illustrates StorHouse UNIX file name translations. The examples assume that environment variable `FNAME1` is defined as `filename1`, `fname2` is defined as `/usr/FILENAME2.ext`, and `PNAME` is defined as `/usr`:

Table 3-4: StorHouse – UNIX File Name Translation

Parameter/Modifier	StorHouse File Name	UNIX Data Set
FNAME1	FNAME1	FNAME1
\$FNAME1	\$FNAME1	filename1
"filename1"	filename1	filename1
"fname2"	fname2	fname2
"\$fname2"	\$fname2	/usr/FILENAME2.ext
"/usr/FILENAME2.ext"	/usr/FILENAME2.ext	/usr/FILENAME2.ext
"PNAME/FNAME1"	PNAME/FNAME1	PNAME/FNAME1
"\$PNAME/FNAME1"	\$PNAME/FNAME1	/usr/FNAME1
"PNAME/\$FNAME1"	PNAME/\$FNAME1	PNAME/filename1
"\$PNAME/\$FNAME1"	\$PNAME/\$FNAME1	/usr/filename1
FNAME1 /HOSTNAME="fname2"	FNAME1	fname2
\$FNAME1 /HOSTNAME="\$fname2"	\$FNAME1	/usr/FILENAME2.ext
FNAME1 /HOSTNAME	FNAME1	FNAME1
\$FNAME1 /HOSTNAME	filename1	filename1
"\$fname2" /HOSTNAME	/usr/FILENAME2.ext	/usr/FILENAME2.ext
"\$PNAME/\$FNAME1" /HOSTNAME	/usr/filename1	/usr/filename1

Unless you specify a path, either explicitly or as part of an environment variable specification, your current directory is used for the destination.

/LOCK Indicates that a file version will be locked under your account upon completion of the command. Other accounts cannot use the locked file version until it is unlocked.

- **FORMAT:** /LOCK
- **DEFAULT:** No /LOCK modifier.
- **PRIVILEGE:** LOCK privilege.

/NEW Indicates that the file must not already exist on the host, or GET will abort and return an error status. /NEW creates the file on the host.

- **FORMAT:** /NEW
- **DEFAULT:** If you omit /NEW, the default is to create a new version of the file if it already exists on the host (and the host supports file versions).

Note: On UNIX hosts, /NEW is the default.

/PASSWORDS Specifies the file's read password.

- **FORMAT:** /PASSWORDS=readpw

You must specify a read password to obtain read access unless:

- The file is not protected by a read access password.
- Your privilege bypasses read access password checks.
- **DEFAULT:** If you omit /PASSWORDS, the password defaults to nulls.

/REPLACE Replaces the existing host (destination) file. The description of this modifier assumes that the file already exists on the host.

If the file does not exist and you specify /REPLACE, the command fails (except on UNIX hosts, where a warning displays but the command runs). If the file does not exist and you omit /REPLACE, the command creates the file.

- **FORMAT:** /REPLACE
- **DEFAULT:** No /REPLACE modifier.

If you omit /REPLACE, the command fails.

- **RESTRICTIONS:** None.
- **HOST DEPENDENCIES:**
 - If you specify /REPLACE in a GET executed from an IBM MVS host, the system displays a warning before replacing the file.
 - If you specify /REPLACE in a GET executed from a UNIX host, the system does not display a warning before replacing the file.

- /RESTORE** Re-creates the file on the host using the original file specification (including the version number) and characteristics with which it was PUT to StorHouse.
- The filename parameter specifies the name of the StorHouse file that will be transferred to the host. If you also use /HOSTNAME (no value can be assigned to /HOSTNAME) on the command, the host translates the specified StorHouse file name based on its corresponding host file name. The resulting translation specifies the name of the StorHouse file that StorHouse will retrieve (GET). Note that /HOSTNAME is not used to derive the host file name; in this case, /RESTORE overrides /HOSTNAME as well as any default specifications on the host.
- If the device or directory no longer exists, you will receive an error and the command will not complete normally.
- **FORMAT:** /RESTORE
 - **FORMAT RESTRICTIONS:** If a file with the same version number already exists on the host, you must also use /REPLACE or the GET will fail.
 - **DEFAULT:** No /RESTORE modifier.
 - **RESTRICTIONS:** You cannot use /RESTORE with transportable ASCII (FILE SYSTEM TYPE=65) and BINARY (FILE SYSTEM TYPE=66) files; if you use /RESTORE, an error will result.
 - **HOST DEPENDENCIES:** Does not apply to IBM MVS or UNIX hosts.
- /VERSION** Specifies the relative version number of the file.
- **FORMAT:** /VERSION={0,-1,...,-32767}
 - **FORMAT RESTRICTIONS:** Wild cards are not allowed.
 - **DEFAULT:** /VERSION=0
- /WAIT** Instructs StorHouse to wait for a locked file version to be unlocked before attempting to transfer it.
- If you use /WAIT and a new version of the file is PUT to StorHouse while you are waiting, you will get the version for which the GET was waiting. If the version for which you are waiting is deleted, you will receive an error message, and your GET will be aborted.
- **FORMAT:** /WAIT
 - **DEFAULT:** No /WAIT modifier. StorHouse aborts the command if the file version is not available.

Examples

IBM MVS Example 1

To copy version -1 of the StorHouse file USERFILE to the host computer, specify /DATA so that unused space in the dataset will be released when the GET operation is completed, and specify /WAIT to instruct StorHouse to wait until USERFILE is unlocked (in the event that it is locked, before attempting to execute GET), enter:

```
? GET 'USERFILE' /HOSTNAME /VERSION=-1 /DATA=RELEASE /WAIT
```

USERFILE must be a SEQUENTIAL file. Because you enclosed 'USERFILE' in single quotes and specified /HOSTNAME, the name of the dataset on the host does not include your TSO prefix. The host dataset name is the same as the file name on StorHouse, that is, USERFILE.

Because you omitted /GROUP, StorHouse retrieves USERFILE from your default file access group. In order for this GET command to execute successfully, you must have the sufficient access type and privilege to bypass the file password specification, if any.

IBM MVS Example 2

To copy relative version 0 (the default when you omit /VERSION) of the StorHouse file FILE1 to the host, specify the host dataset name for FILE1 as NEWFILE, and specify /REPLACE so that the contents of NEWFILE (FILE1 on StorHouse) will replace the contents of an existing host data set named NEWFILE, enter:

```
? GET FILE1 /HOSTNAME=NEWFILE /REPLACE
```

Because FILE1 is not enclosed in single quotes, your TSO prefix is added to the dataset name on the host. Assuming that your TSO prefix is USER, the host dataset name is USER.NEWFILE.

If there is no existing dataset NEWFILE, StorHouse generates a warning message but does retrieve (GET) the file. If NEWFILE already exists on the host and you omit /REPLACE, the GET command fails.

UNIX Host Example 1

To copy relative version -1 of the StorHouse file USERFILE to the host, specify the file's name on the host as USERFILE, specify /WAIT to instruct StorHouse to wait until USERFILE is unlocked (in the event that it is locked, before attempting to execute the GET command), enter:

```
? get userfile /version=-1 /wait
```


UNIX Host Example 2

To copy relative version 0 (the default when you omit /VERSION) of the StorHouse file FILE1 to the host, specify the host file name for FILE1 as newfile, specify /REPLACE so that the contents of newfile (FILE1 on StorHouse) will replace the contents of newfile on the host, enter:

```
? get file1 /hostname="newfile" /replace
```

If there is no existing host file newfile, StorHouse retrieves FILE1 anyway.

HELP

The HELP command displays documentation for commands or general information.

Format

HELP <keyword</keyword> <...>>

COMMAND FORMAT SUMMARY					
COMMAND, PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
HELP	-	-	-	-	-
keyword	-	-	-	-	See text

Description

HELP displays documentation about StorHouse Command Language. If you enter HELP without a keyword, StorHouse displays a description of this command as well as a list of available commands and keywords. Each HELP command displays the requested information, lists areas for which further information is available, and then completes. You must enter another HELP command to obtain further information.

Information is arranged in a hierarchical order. The first keyword specified identifies the most general category; the last keyword specified identifies the most specific area within the more general areas.

You can obtain return code information by entering the following command, where the code will be a symbolic or numeric return code:

```
HELP RETURN_CODE code
```

The code must contain four characters. If you are entering a code that contains fewer than four characters, enter leading zeros before the code.

If the system does not find the code, the command displays all available codes, of which there are many.

Parameters

keyword Identifies categories of information or commands, parameters, and modifiers for which information is to be displayed.

- **FORMAT:**
 - keyword keyword /keyword <keyword>
 - keyword /keyword <keyword>
 - keyword <keyword>

The keywords can be special words or symbols for general categories of information or commands, parameters, and modifiers in command line format. Generally, if you abbreviate a keyword, the system displays information for all keywords that begin with the characters you specify.

- **DEFAULT:** If you omit keyword, the command displays information for the HELP command.

Examples

- To display a description of the online help facility and list topics for which help is available, enter:

```
? HELP
```

- To display a brief definition of the interactive command IMPORT and a list of related topics for which information is available, enter:

```
? HELP IMPORT
```

- To display a description of the IMPORT command, enter:

```
? HELP IMPORT DESCRIPTION
```

IMPORT

The IMPORT command imports a level L or level S physical volume or volume set into StorHouse.

Format

IMPORT vset_name

COMMAND FORMAT SUMMARY					
COMMAND, PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
IMPORT	ALLOCATION +SYSTEM	-	-	-	-
/CONFIRM	-	-	-	-	/CONFIRM
/REPORT	-	-	-	-	-
vset_name	-	-	-	-	(Required)
/DIRECTORY=...	-	-	-	-	See text
/LIBRARY=...	-	-	-	-	See text
/MEDIA=...	-	-	-	-	See text
/MERGE	-	-	-	-	-
/VALIDATE_DATE	-	-	-	-	-

Description

IMPORT imports a previously recorded volume or volume set into StorHouse. It instructs the operator to enter the members of the volume set into a storage device, and adds the volumes and volume set to the StorHouse directories. StorHouse processes only one IMPORT command per library device at a time.

The system administrator can import one or more volumes by specifying the volume set name in the vset_name parameter field. StorHouse instructs the operator to load one unidentified volume from the volume set at a time into the device specified by /LIBRARY until the operator responds that there are no more volumes. The system creates the volume set (unless the administrator specified /MERGE) from information stored on the volume and adds each volume to the volume set and StorHouse directories.

After importing a new volume set or merging one or more volumes into an existing volume set, you must execute a CATALOG VSET command to make the files on the volume set accessible. CATALOG VSET recovers the file directory and space allocation information from the imported volumes.

Level F volumes and volume sets cannot be imported.

Free pool volume sets cannot be imported, but a volume from a free pool can be imported into an existing free pool using the `/MERGE` modifier. Empty volumes imported into the free pool should not be cataloged; if you attempt this, the command terminates in an error. Empty volumes imported into existing free pools are available for allocation to other volume sets immediately. The volumes are marked as cataloged after the import and do not require cataloging.

You cannot import tape cleaning cartridges. You must use the `MIGRATE /BLANKS` command to input tape cleaning cartridges into the system.

If you import a volume that cannot be written in the target library (such as a Hitachi-1 volume in a Hitachi-2 library), StorHouse will writelock that volume.

You can schedule this command using the `SCHEDULE` command. If you enter `IMPORT` from the StorHouse console or any user terminal without using `SCHEDULE`, the command prompt (?) does not return until the load volume requests have been satisfied from another StorHouse session. Using `SCHEDULE` prevents conflicts with the load requests.

Parameters

`vset_name` Specifies the volume set to be imported or the existing volume set into which one or more volumes are to be merged. The volume set name must be the same as that recorded on the volumes themselves.

- **FORMAT:** `vset_name`

To import an empty volume (a volume that was part of a free pool), use the free pool name as the volume set name and include the `/MERGE` modifier.

Specify a free pool name in the form `.Lxxmmr`, where `Lxx` is the device specification for the library device containing the free pool, `mm` is a media type, and `r` is a recording type.

- **DEFAULT:** None; you must specify this parameter.
- **RESTRICTIONS:** You cannot specify level F volume sets.

Command Modifiers

/CONFIRM Controls whether StorHouse asks you to confirm the command.

- **FORMAT:** /CONFIRM or /NOCONFIRM
- **DEFAULT:** /CONFIRM

When the system requests a confirmation, enter YES (also Y or YE) or NO (also N). If you press R or enter any characters other than those described as a YES response, StorHouse interprets them as NO.

/REPORT Controls the generation of special text responses for the completion of significant actions. /REPORT instructs StorHouse to generate a text response. /NOREPORT instructs StorHouse not to generate a text response.

- **FORMAT:** /REPORT or /NOREPORT
- **DEFAULT:** /NOREPORT

Parameter Modifiers

/DIRECTORY Specifies the directory into which files in the volume set may eventually be cataloged.

- **FORMAT:**
 - /DIRECTORY=ARCHIVE
 - /DIRECTORY=BACKUP
 - /DIRECTORY=PRIMARY

DEFAULT: If you omit /DIRECTORY, and the volume set does not exist in StorHouse already, the default is to use either the directory recorded in the volume labels or the primary directory if no directory is in the labels. If the volumes are being merged into an existing volume set, the volumes are assigned to the same directory as the existing set.

- **RESTRICTIONS:** /DIRECTORY and /MERGE are mutually exclusive.

If the directory specified by /DIRECTORY is different from the directory recorded in the volume labels, the change is not recorded in the volume labels and is not automatically recovered in any future imports or recoveries.

/LIBRARY Specifies the library device that will receive the imported volume or volumes. The command assigns the specified library device to the volume set as the set's library device attribute unless the volumes are being merged into an existing volume set. If the volumes are not being merged, /MEDIA identifies the media type and recording type of the free pool (the pool of available volumes) in the library device from which volumes will be allocated to the volume set.

- **FORMAT:** /LIBRARY=Lxx

Lxx is the device identification code for the library-level device with the unit number xx.

- **DEFAULT:** If you omit /LIBRARY, the default is the value of the system parameter DEFAULT_LD. If you do not specify the modifier and the system parameter does not specify a valid device, the system rejects the command.

/MEDIA Specifies the media type and recording type of the volume or volumes to be imported. The /LIBRARY modifier identifies the library device.

- **FORMAT:** /MEDIA=mmr

The media type is identified by the two-character code mm. The recording type is identified by the one-character code r. The mmr can be taken from the volume's vid. Valid media and recording types are listed under "Volume Identification Code" on page B-9. (Your site's configuration may support only a subset of these values.)

- **DEFAULT:** If you omit /MEDIA, the default is the value of the DEFAULT_MED_did system parameter, where did is the library device specified by /LIBRARY. If you omit /MEDIA and the system parameter does not specify a valid media type and recording type, the system rejects the command.
- **RESTRICTIONS:** /MEDIA is mutually exclusive with /MERGE.

/MERGE Indicates that the volume or volumes being imported are to be merged into an existing volume set. StorHouse instructs the operator to load an unspecified volume from the volume set and continues to request volumes until the operator indicates that there are no more volumes.

If you specify /MERGE and the volume set does not exist, StorHouse returns an error. Also, you cannot import a volume into a free pool volume set that cannot be written in the target library (such as a Hitachi-1 volume in a Hitachi-2 library).

- **FORMAT:** /MERGE
- **DEFAULT:** If you omit /MERGE, the volume or volumes being imported must be part of a new volume set.
- **RESTRICTIONS:**
 - /DIRECTORY and /MERGE are mutually exclusive.
 - /MEDIA and /MERGE are mutually exclusive.

/VALIDATE_DATE Sets the VALIDATE_DATE timestamps of the imported volumes to the current date/time or the specified date/time. For a full description of the absolute time and

delta time data fields, see Appendix B, “Data Field, Parameter, and Modifier Definitions,” in the *Command Language Reference Manual*.

- **FORMAT:**
 - /VALIDATE_DATE
 - /VALIDATE_DATE=absolute_time
 - /VALIDATE_DATE=delta_time
- **DEFAULT:** If you omit /VALIDATE_DATE, StorHouse sets the VALIDATE_DATE timestamps of the imported volumes to the date/time the volumes were initialized.

Examples

- To import the volume set USERVSET into library device L01 and instruct the system to allocate new volumes to the volume set from the free pool of volumes in L01 having media type OA and recording type D, enter:

```
? IMPORT USERVSET /LIBRARY=L01 /MEDIA=OAD
```

StorHouse creates an entry for USERVSET in the directory recorded in the volume labels or in the primary directory if the labels do not contain a directory specification. It also requests the operator to load USERVSET's volumes and records the volume identifier of each member of the volume set. If the volume set name USERVSET already exists in the StorHouse directory, the command fails and an error message is returned.

You must execute CATALOG VSET to make the volumes and files in USERVSET available.

- To import the volume set USERVSET into the library device specified by the system parameter DEFAULT_LD (the default when /LIBRARY is omitted), enter:

```
? IMPORT USERVSET
```

If the volume is eventually extended, the system will allocate volumes from the free pool having the media specified by the DEFAULT_MED_did system parameter, where did is the library device. If no directory is recorded in the volume labels of USERVSET's volumes, the volume set is imported into the primary directory. If the volume labels contain the name of another directory, USERVSET is imported to that directory.

StorHouse creates a directory entry for USERVSET. It instructs the operator to load USERVSET's volumes and records the volume identifier of each member of the volume set. If the volume set name USERVSET already exists in the same StorHouse directory, the command fails and an error message is returned.

You must execute CATALOG VSET to make the volumes and files in USERVSET available.

- To specify a directory on the command, enter:

```
? IMPORT USERVSET /DIRECTORY=BACKUP
```

This causes StorHouse to import USERVSET's volumes as in the preceding example, except that USERVSET is imported to the backup directory. If a different directory name was previously recorded on the volume labels, the new directory (BACKUP) is not recorded on the labels and is not automatically recovered in any future imports or recoveries. Again, USERVSET must not already exist.

You must execute CATALOG VSET to make the volumes and files in USERVSET available.

- To import volumes into an existing volume set, specify /MERGE on the command:

```
? IMPORT USERVSET /MERGE
```

This command imports one or more volumes into USERVSET. StorHouse requests the operator to load volumes until the operator indicates that there are no more to be merged.

You must execute CATALOG VSET to make the newly imported volume(s) and files in USERVSET available.

- To import an empty volume that was part of a free pool, use /MERGE:

```
? IMPORT .L00OAD /MERGE
```

.L00OAD specifies that the empty volume now belongs to the free pool with media OAD in the default library device 00.

Do not attempt to execute CATALOG VSET using .L00OAD. Once imported, the empty volume is available for allocation immediately.

- To import an empty volume that was part of a free pool into library device L03 (which is not the default library):

```
? IMPORT .L03OAD /MERGE /LIBRARY=L03
```

.L03OAD specifies that the empty volume now belongs to the free pool with media OAD in library device 03.

INITIALIZE DEVICE

The INITIALIZE DEVICE command uncatalogs all file extents on a level F device.

Warning This command is reserved for SGI customer support personnel. SGI uses this command only when repairing or replacing a level F device. Inappropriate use of this command could result in loss of critical data.

Format

INITIALIZE DEVICE did

COMMAND FORMAT SUMMARY					
COMMAND, PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
INITIALIZE DEVICE	SYSTEM	-	-	-	-
/CONFIRM	-	-	-	-	-
/REPORT	-	-	-	-	-
did	-	-	-	-	(Required)
/RETAIN	-	-	-	-	-

Description

INITIALIZE DEVICE uncatalogs all file extents on a level F device. When an SGI customer support representative invokes the command, it verifies that the device is DOWN (according to StorHouse) before it makes any changes. If the device is not DOWN, the command terminates with an error response.

After verifying that the device is DOWN, the command marks the device with mode INITIALIZING. The command changes the mode to INITIALIZED after it uncatalogs all extents on the device. StorHouse will not allow the device to be brought back up until initialization is complete. If a system failure interrupts the INITIALIZE DEVICE command before it uncatalogs all extents on a device, the device will remain marked as INITIALIZING. In this case, an SGI customer support representative can re-enter the INITIALIZE DEVICE command to complete initialization. During command operations, you can issue the SHOW DEVICE command to display the current device mode.

An SGI customer support representative can schedule the INITIALIZE DEVICE command using the SCHEDULE command.

Parameters

did The device identification code specifies the device to be initialized.

- FORMAT:
 - F{unit_number}
 - F*

The braces “{ }” are not part of the specification.

Unit_number consists of two hexadecimal characters where each physically separate device is assigned a unit_number, starting at 00.

- DEFAULT: None; you must specify this parameter.

Command Modifiers

/CONFIRM Controls whether StorHouse asks you to confirm the command.

- FORMAT: /CONFIRM or /NOCONFIRM
- DEFAULT: /NOCONFIRM

When the system requests a confirmation, enter YES (also Y or YE) or NO (also N). If you press R or enter any characters other than those described as a YES response, StorHouse interprets them as NO.

/REPORT Controls the generation of special text responses for the completion of significant actions. /REPORT instructs StorHouse to generate a text response. /NOREPORT instructs StorHouse not to generate a text response.

- FORMAT: /REPORT or /NOREPORT
- DEFAULT: /NOREPORT

Parameter Modifier

/RETAIN Keeps information in the catalog for file extents that were: 1) in the performance buffer partition on the level F device that was being initialized and 2) already backed up to their primary file sets. Once an SGI customer support representative reinitializes the level F device, the StorHouse software automatically repopulates the performance buffer with those file extents at access time.

- **FORMAT: /RETAIN**
- **DEFAULT:** If an SGI customer support representative omits this modifier, all information for all file extents that were located in the performance buffer partition on the level F device is deleted.

3

Command Descriptions

INITIALIZE DEVICE

LOCK

The LOCK command locks a file version for use by a single account.

Format

LOCK filespec

COMMAND FORMAT SUMMARY					
COMMAND, PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
LOCK	LOCK	-	-	-	-
/FID	-	-	-	-	-
/REPORT	-	-	-	-	-
filespec	-	R,W, or D	R,W, or D	-	(Required)
/DIRECTORY=...	-	-	-	-	/DIRECTORY=PRIMARY
/GROUP=...	SETGROUP	R,W, or D		-	Current default
/PASSWORDS=...	-	-	-	-	-
/VERSION=...	-	-	-	-	/VERSION=0
/WAIT	-	-	-	-	-

Description

LOCK allows a user to *explicitly* lock a version of a file for use by one account. This prevents users of other accounts from accessing the version, but it does not prevent users of the same account from accessing it. Explicitly locked files can be unlocked using the UNLOCK command.

The user identifies the version to be locked by specifying either the file's file identifier or its relative version number in the directory selected by the /DIRECTORY modifier. The lock applies to the primary and any backup or archive copies.

The user must have read, write, or delete access to the group and file to obtain a lock. In other words, if the user can access a file, the user can lock it.

A user who attempts to access a file version that was locked by another user will receive an error. Many commands allow the user to specify /WAIT, which instructs StorHouse to wait for a locked version to be unlocked before attempting to complete the command.

Parameters

- filespec** This parameter specifies the file version to be locked. The file must exist in the specified directory before it can be locked.
- **FORMAT:**
 - If you omit /FID, the format is filename
 - If you specify /FID, the format is x.y, where x is the system identifier and y is the file number assigned to the file:
 - **FORMAT RESTRICTIONS:** The wildcard is not allowed.
 - **DEFAULT:** None; you must specify this parameter.
 - **RESTRICTIONS:** You cannot use /GROUP and /VERSION with /FID.
 - **ACCESS REQUIREMENTS:** Read, write, or delete access to the file.

Command Modifiers

- /FID** Indicates that the filespec parameter contains a file identifier rather than file name.
- **FORMAT:** /FID
 - **DEFAULT:** If you omit /FID, the filespec parameter contains a standard file name specification.
 - **RESTRICTIONS:** /FID is mutually exclusive with /GROUP, /PASSWORDS, and /VERSION.

- /REPORT** Controls the generation of special text responses for the locking of a file version. The text response contains the file identifier (fid) of the locked version.

/REPORT instructs StorHouse to generate a text response. /NOREPORT instructs StorHouse not to generate a text response.

- **FORMAT:** /REPORT or /NOREPORT
- **DEFAULT:** /NOREPORT

Parameter Modifiers

/DIRECTORY Specifies the directory of the file to be locked.

- **FORMAT:**
 - /DIRECTORY=ARCHIVE
 - /DIRECTORY=BACKUP
 - /DIRECTORY=PRIMARY
- **DEFAULT:** /DIRECTORY=PRIMARY

The LOCK command locks a file based on its file identifier. Copies of the same file, regardless of their directory location, share the same file identifier. Therefore, LOCK always locks the primary and, if they exist, the archive and backup copies of the specified file. It is not possible to lock a file in a single directory if copies of it exist in other directories.

/GROUP Specifies a file access group name and, optionally, group passwords.

- **FORMAT:**
 - /GROUP=groupname
 - /GROUP=groupname<:<readpw><:<writepw><:<deletepw>>>
- **FORMAT RESTRICTIONS:** Wild cards are not allowed in the group name.
- **DEFAULT:**
 - If you omit /GROUP, the default is your current default group and default access rights.
 - If you specify the current default group name and do not specify a group password, the defaults for your group access rights apply.
 - If you specify a group name that is not the current default group and do not specify a password, all passwords default to null.
- **ACCESS REQUIREMENTS:** Read, write, or delete access to the group. You must specify at least one group access password unless:
 - The group is not protected by passwords.
 - You have a privilege that bypasses password checks.
 - Your default access to the group includes read, write, or delete access.
- **RESTRICTIONS:** /GROUP and /FID are mutually exclusive.
- **PRIVILEGE:** You must have SETGROUP privilege to specify any group except your default group.

`/PASSWORDS` Specifies file access passwords.

- **FORMAT:**
 - `/PASSWORDS=<readpw>:<writepw>:deletepw`
 - `/PASSWORDS=<readpw>:writepw`
 - `/PASSWORDS=readpw`
- **DEFAULT:** If you omit `/PASSWORDS`, the passwords default to nulls.
- **ACCESS REQUIREMENTS:** Read, write, or delete access to the file. You must specify at least one file access password unless:
 - The file is not protected by read, write, and delete passwords.
 - You have a privilege that bypasses password checks.
- **RESTRICTIONS:** `/PASSWORDS` and `/FID` are mutually exclusive.

`/VERSION` Specifies the relative version number of the file version to be locked.

- **FORMAT:** `/VERSION=version`

The value of version can range from 0 through -32767 for primary files. For files in the archive and backup directories, the range is 0 through -65535.
- **DEFAULT:** `/VERSION=0`
- **RESTRICTIONS:** `/VERSION` and `/FID` are mutually exclusive.

`/WAIT` Instructs StorHouse to wait for a locked file version to be unlocked before attempting to use it in the command execution.

- **FORMAT:** `/WAIT`
- **DEFAULT:** No `/WAIT` modifier. StorHouse aborts the command if the specified file version is not available.

Examples

- To lock relative version 0 (the default when `/VERSION` is omitted) of the file `USERFILE`, enter:

```
? LOCK USERFILE
```

`USERFILE` must be located in your default file access group and in the primary directory, the defaults when `/GROUP` and `/DIRECTORY` are omitted.

The lock applies to the primary copy of version 0 of USERFILE and to any backup or archive copies.

You must have read, write, or delete access to USERFILE to execute this LOCK command. Only your account (in other words, the account of the user executing the command) can access USERFILE until it is made available with the UNLOCK command.

- To lock a relative version other than 0 (the most recent file version), you can specify the version number on the command:

```
? LOCK USERFILE /VERSION=-2
```

This command locks relative version -2 of USERFILE in the primary directory and in the backup and/or archive directories if copies exist there.

- To lock the file version whose fid is 234.78 (in other words, specify a file identifier instead of a file name), enter:

```
? LOCK /FID 234.78
```

The system identifier is 234; the file number is 78, which uniquely identifies a file version. The file is locked in the primary directory and in the backup or archive directory if a copy of it is located there.

MESSAGE

The MESSAGE command sends a message to the StorHouse operator console or to a user.

Format

MESSAGE "text"

COMMAND FORMAT SUMMARY					
COMMAND, PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
MESSAGE	MESSAGE	-	-	-	-
/BELL	-	-	-	-	-
/CANCEL	-	-	-	-	-
/LOG	-	-	-	-	-
/OPERATOR	-	-	-	-	See text
/SYSTEM	-	-	-	-	-
/UID=...	-	-	-	-	-
text	-	-	-	-	See text

Description

MESSAGE sends a message to the StorHouse operator console and/or other destinations. To enable the operator to issue messages under the standard OPERATOR account, the system administrator must grant MESSAGE privilege to that account.

Messages display automatically when you specify /UID=uid or /UID=* on the command (see the description of the /UID modifier). If you omit /UID, the message is sent to the message queues of all users who are CONSOLE-enabled. You must execute CONSOLE /READ or CONSOLE /ALL to display messages in a user's queue.

You can schedule MESSAGE using the SCHEDULE command.

Parameters

text Provides the contents of the message that is to be sent.

- **FORMAT:** Character string

Character strings must consist of up to 56 printable ASCII characters. StorHouse translates lowercase letters to uppercase letters unless you enclose the string in quotes. If the text contains special characters (defined in Chapter 2, “Using StorHouse Command Language”), it must be enclosed in quotes. See Appendix B, “Data Field, Parameter, and Modifier Definitions” for a detailed description of the text parameter.

- **DEFAULT:** If you do not specify any text, the default is a null string.

Command Modifiers

/BELL Indicates that the bell on the receiving terminal will ring when the terminal receives the message.

- **FORMAT:** /BELL
- **DEFAULT:** If you omit /BELL, the bell on the receiving terminal will not ring when the terminal receives a message.

/CANCEL Instructs the system to remove text from StorHouse welcome message that was previously added using /SYSTEM.

- **FORMAT:** /CANCEL
- **DEFAULT:** If you omit /CANCEL, the system does not remove text from the system welcome message.

/LOG Instructs the system to record the text in the StorHouse administration log.

- **FORMAT:** /LOG
- **DEFAULT:** If you omit /LOG, the system does not record the text in the log.

/OPERATOR Instructs the system to display the text on the StorHouse operator console and in the message queues of all console-enabled terminals.

- **FORMAT:** /OPERATOR
- **DEFAULT:** /OPERATOR is the default if you do not use another modifier to specify a destination.

/SYSTEM Instructs the system to replace the text in the StorHouse welcome message.

- **FORMAT:** /SYSTEM
- **DEFAULT:** If you omit /SYSTEM, the system does not replace the text in the welcome message.

/UID Specifies the user identification code(s) of the user(s) who will receive the message. The system assigns each user a unique `uid` upon signon. The `uid` is the four-digit user identification code that identifies a user's session. (It is not the same as an `aid`, which identifies an account.)

- **FORMAT:**
 - /UID=`uid`
 - /UID=(`uid,uid<,...>`)
 - /UID=*

If the command includes /UID=`uid` or /UID=* and the specified recipient is interacting with StorHouse, the message displays automatically at the terminal where that user is signed on. For example, if a recipient presses `R` or if a previously entered command is still executing when the message is received, the message displays immediately. If the recipient is signed on but not interacting, the message does not appear until some interaction occurs.

- **DEFAULT:** If you omit /UID, the system sends the message to the operator console.
- **RESTRICTIONS:** The system does not send the message to Callable Interface users on hosts.

Examples

- To send the message “The system will be down this weekend” to all interactive users, to record the message in the StorHouse administration log, and to ring the bell on receiving terminals to alert users to the message, enter:

```
? MESSAGE "The system will be down this weekend" /BELL /LOG /UID=*
```

The message displays automatically at the terminals of all users currently signed on to StorHouse. The message is also recorded in the StorHouse administration log. Note that the message is not sent to Callable Interface users.

- To send the same message to a specific user identification code, enter:

```
? MESSAGE "The system will be down this weekend" /UID=0036 /BELL
```

The message displays automatically at the terminal where the user whose uid is 0036 is signed on to StorHouse.

If you omit /UID when sending the above message, the message does not display automatically:

```
? MESSAGE "The system will be down this weekend" /BELL
```

Instead it is sent to the message queue of any user who is currently console-enabled (as well as to the administration log). To read queued messages, the user must execute `CONSOLE /READ` (for one message) or `CONSOLE /ALL` (for multiple messages).

- To replace the text "XYZ Corporation – Celebrating 20 Years" in the StorHouse welcome message or to add new text, enter:

```
? MESSAGE "XYZ Corporation – Celebrating 20 Years" /SYSTEM
```

This message appears at signon with the StorHouse welcome message.

- To delete the existing message, enter:

```
? MESSAGE /CANCEL
```

The previously entered text no longer appears when users sign on to StorHouse.

MIGRATE

The MIGRATE command removes files from the performance buffer, and moves files from one volume set to another. This command also moves blank physical volumes into a library device.

MIGRATE filename and MIGRATE /BY_VSET return the command prompt after migration completes.

Format

MIGRATE

MIGRATE filename

MIGRATE /BLANKS=number did

MIGRATE /BY_VSET source_vset_name destination_vset_name

COMMAND FORMAT SUMMARY					
COMMAND, PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
MIGRATE	SYSTEM	-	-	-	-
/ALL	-	-	-	-	-
/BLANKS=...	-	-	-	-	-
/BY_VSET	COPY + ALLOCATION	-	-	-	-
did	-	-	-	-	See text
/BYPASS_LABEL	-	-	-	-	-
/MEDIA=...	-	-	-	-	See text
filename	-	D	D	-	See text
/GROUP	SETGROUP	D	-	-	-
/NOSPECIAL	-	-	-	-	-
/PASSWORDS=...	-	-	-	-	-
/REPORT	-	-	-	-	-
/VERSION=...	-	-	-	-	/VERSION=0
/WAIT	-	-	-	-	-
source_vset_name	-	-	-	-	See text
/CONFIRM	-	-	-	-	-
/MINIMUM=...	-	-	-	-	(Required)
/ORDER_BY=...	-	-	-	-	/ORDER_BY=LAST
/REPORT	-	-	-	-	-

COMMAND FORMAT SUMMARY					
/WAIT	-	-	-	-	/WAIT
destination_vset_name	-	-	-	-	See text

Description

MIGRATE allows you to perform four types of migration:

- Initiate the removal of specific file extents from the performance buffer
- Initiate the otherwise automatic removal of file extents from the performance buffer
- Move files from one volume set to another
- Add blank volumes to level L storage (including tape cleaning cartridges).

The MIGRATE and MIGRATE /BLANKS commands initiate the appropriate migration function and then return the command prompt; they do not wait for the migration function to finish processing before returning the command prompt. The MIGRATE /BY_VSET command returns the command prompt after it completes the migration.

You can schedule MIGRATE using the SCHEDULE command.

Initiating a Performance Buffer Migration of Specific Files

If you specify MIGRATE with a filename, the system migrates extents of the specified file from the performance buffer. If a copy of an extent of a selected file already exists in the performance buffer and in its primary file set, StorHouse simply removes the performance buffer copy. The MIGRATE filename command does not migrate extents with a status of NEW (that is, extents without a copy in their primary file set).

Initiating a Performance Buffer Migration

If you specify MIGRATE with no options, the command initiates a performance buffer file migration in which the system selects the file extents to remove from the performance buffer. It selects performance buffer file extents that have the least likelihood of being accessed, based on their migration factors. A migration factor is derived from statistics such as the file's ATF attribute, size, and access history. If a copy of a selected extent already exists in the primary file set, the system simply removes the performance buffer copy. The system does not migrate new extents (in other words, extents that do not have a copy in their primary file set).

If the available space in the performance buffer equals or exceeds the amount indicated by the MIG_MAX system parameter, no extents are migrated. If available

space in the performance buffer is less than the amount indicated by the `MIG_MAX` system parameter, the system migrates file extents until the available space equals or exceeds `MIG_MAX`. If `MIG_MAX` was not reached and there are new extents, the system initiates a `BACKUP` command to copy new file extents from the performance buffer to their primary file sets. Once the backup is complete, the migration continues.

Unless you specify `/ALL`, StorHouse does not migrate file extents from performance buffer space that is reserved by a group for its exclusive use.

Migrating Files From One Volume Set to Another

The purpose of the `MIGRATE /BY_VSET` command is to create available space in a volume set. This type of migration changes the file set and/or volume set for all migrated files. This command moves files from a source volume set to a destination volume set based on user-specified values for the `/MINIMUM` and `/ORDER_BY` parameter modifiers.

- The `/MINIMUM` modifier specifies the number of empty volume sides that must be available for new files after the migration completes.
- The `/ORDER_BY` modifier specifies a time stamp value that indicates how volumes should be selected for migration.

Once the command moves all files on the selected volumes, it erases the source volumes to make room for new files.

The maximum size of a volume set is controlled by its `LIMIT` attribute. Always set a non-zero `LIMIT` value for source volume sets used with `MIGRATE /BY_VSET`. If a volume set's `LIMIT` is zero, which indicates that the volume set can grow indefinitely, StorHouse will always make space available to the volume set by adding volumes from the free pool rather than by migrating files off existing volume surfaces.

The `MIGRATE /BY_VSET` command works as follows. After verifying the command parameters, it compares the number of empty volume sides in the volume set to the `/MINIMUM`.

- If the number of empty volume sides in the source volume set is greater than or equal to the `/MINIMUM`, the command completes successfully without migrating files.
- If the number of empty volume sides in the source volume set is less than the `/MINIMUM`, the command determines if the volume set's `LIMIT` will allow the system to allocate volumes from the library free pool to reach the `/MINIMUM`.
- If the number of available surfaces (the `LIMIT` minus the number of used surfaces in the volume set) is high enough to reach the `/MINIMUM`, StorHouse obtains additional space for the volume set as needed by allocating empty

volumes from the free pool. (Note that adding volumes from the free pool is no longer part of the MIGRATE /BY_VSET command process.)

- If the number of available surfaces is not high enough to reach the /MINIMUM or the volume set is already at its LIMIT, the command uses the /ORDER_BY parameter value to select enough used volumes from the source volume set to reach the /MINIMUM.

Then, it moves all files from the selected source volumes to the destination volume set and erases the source volumes. If the command cannot free selected volumes, it returns an error status.

When selecting volumes for migration, the MIGRATE /BY_VSET command processes volume sides with CATALOGED, ERASING, or WRITELOCKED volume states but skips empty volume sides. The command does not select physical volumes with one or more DISABLED, CATALOGING, UNCATALOGING, or UNCATALOGED sides. The command selects the volume side with an appropriate volume state and the lowest (oldest) time value indicated by /ORDER_BY. If the physical volume containing the selected logical volume has two sides, the command migrates both sides regardless of the time value for the opposite side.

The MIGRATE /BY_VSET command assumes the following for a volume set containing two-sided media and having a non-zero CYCLE attribute:

- Volumes allocated from the free pool and erased volumes already in the volume set provide one, not two, empty sides; the second side is automatically deactivated.
- The maximum number of empty volume sides is half the total sides in the volume set because the other half will be deactivated and/or used.

For example, if a volume set on two-sided media has a LIMIT of eight, the volume set has no more than four usable surfaces at one time.

StorHouse moves each selected file to a destination file set in a destination volume set. If the destination volume set does not exist, StorHouse returns an error. If the destination file set does not exist, StorHouse creates one with the same name as the source file set using the /CONTIGUOUS or /NONCONTIGUOUS setting of the source file set and the CREATE FSET command default values for other attributes. If you want the destination file set to have different values from the defaults, you must create it yourself before you run the MIGRATE /BY_VSET command. SGI recommends that you always use the default file set LIMIT of 0.

You can execute multiple MIGRATE /BY_VSET commands at one time; however, for any one source volume set, it is best to execute only one command at a time.

Adding Blank Volumes to Level L Storage

If you specify `/BLANKS`, the system requests the operator to load the number of blank physical volumes (including fresh tape cleaning cartridges) specified in the `/BLANKS` modifier. The system may request the operator to unload a physical volume from the exchange station of the device specified in the `did` parameter to shelf storage before instructing the operator to load a blank physical volume. If an operator is not on duty when you enter the command, the system queues the operator requests until an operator responds. The free pool that will receive the blank physical volumes is identified by the device specified in the `did` parameter, and the media and recording types specified in the `/MEDIA` parameter modifier.

Parameters

`did` Specifies the device identification code of the library device that will receive blank volumes when you specify `/BLANKS`. The `/MEDIA` parameter modifier determines the specific library device free pool.

- **FORMAT:** Lxx (the letters xx denote the library device number)
- **DEFAULT:** None; if you specify `/BLANKS`, you must specify this parameter.
- **RESTRICTIONS:** This parameter is valid only when you specify `/BLANKS`.

`filename` Specifies the name of the file whose extents will be migrated from the performance buffer.

- **FORMAT:**
 - filename
 - partial_filename*
 - *

The wild card is valid only if you specify it as the last or only character in the filename.

- **DEFAULT:** None
- **RESTRICTIONS:** This parameter is valid only if you do not specify `/BLANKS` or `/BY_VSET`.
- **ACCESS REQUIREMENTS:** Delete access to the file and group.

`source_vset_name` Specifies the volume set name to be used as the source of files to be migrated.

- **FORMAT:** vset_name

Volume set names can contain 1 to 8 characters, consisting of the following ASCII characters: A-Z (uppercase), 0-9, _(underscore), and \$ (dollar sign).

StorHouse always translates volume set names to uppercase characters, even if they are enclosed in quotes.

- DEFAULT: None; if you specify `/BY_VSET`, this parameter is required.
- RESTRICTIONS:
 - This parameter is valid only if you specify the `/BY_VSET` command modifier.
 - You cannot specify level F volume sets.
 - The source and destination volume sets must be in the same directory.
 - The source and destination volume set names must be different.
 - The source volume set must be erasable media.

`destination_vset_name`

Specifies the volume set name to be used as the destination volume set for migrated files.

- FORMAT: `vset_name`

Volume set names can contain 1 to 8 characters, consisting of the following ASCII characters: A-Z (uppercase), 0-9, \$ (dollar sign) and _ (underscore). StorHouse always translates volume set names to uppercase characters, even if they are enclosed in quotes.

- DEFAULT: None; if you specified `/BY_VSET`, you must specify this parameter.
- RESTRICTIONS:
 - This parameter is valid only if you specify the `/BY_VSET` command modifier.
 - The source and destination volume sets must be in the same directory.
 - The source and destination volume set names must be different.
 - The destination volume set must already exist.

Command Modifiers

`/ALL` Specifies that all file extents, including those from performance buffer space that is reserved by a group for its exclusive use, are candidates for migration. (This modifier is primarily intended for use by SGI customer support personnel.)

- FORMAT: `/ALL`
- DEFAULT: If you omit `/ALL`, the command migrates file extents except those from performance buffer space that is reserved by a group for its exclusive use.

`/BLANKS` Specifies the number of blank physical volumes (including fresh tape cleaning cartridges) to be migrated into the level L device indicated in the `did` parameter. The system will request the operator to label each blank physical volume (except for bar-coded tape volumes) and to place it in the exchange station of the device specified in the `MIGRATE` command.

You cannot migrate a blank volume that cannot be written in the target library (such as a Hitachi-1 volume in a Hitachi-2 library).

- **FORMAT:** /BLANKS=number
- **DEFAULT:** If you omit /BLANKS, the command does not initiate a blank volume migration.
- **RESTRICTIONS:**
 - /BLANKS is mutually exclusive with /BY_VSET and the filename parameter.
 - /BLANKS does not process level F volumes.

/BY_VSET Instructs the system to initiate a migration that relocates files from a source volume set to a destination volume set. This modifier always creates noncontiguous destination file sets. The /BY_VSET modifier does not apply to files in a source volume set on level F.

- **FORMAT:** /BY_VSET
- **DEFAULT:** None; if you omit /BY_VSET, the command does not initiate this type of migration.
- **RESTRICTIONS:**
 - /BY_VSET is mutually exclusive with /BLANKS and the filename parameter.
 - If you specify /BY_VSET, you must specify both the source_vset_name and destination_vset_name parameters.
 - If you specify /BY_VSET, you must specify /MINIMUM.
- **PRIVILEGES:** This modifier requires COPY and ALLOCATION privileges.

filename Parameter Modifiers

/GROUP Specifies a file access group name and, optionally, group passwords.

- **FORMAT:**
 - /GROUP=groupname<:::deletepw>
 - /GROUP=partial_groupname*
 - /GROUP=*
- **DEFAULT:**

- If you omit /GROUP, the default is your current default group and default access rights.
 - If you specify the current default group name and omit the delete password, the defaults for your group access rights apply.
 - If you specify a group name that is not the current default group and omit the delete password, the delete password defaults to null.
 - ACCESS REQUIREMENTS: Delete access to the group. You must specify the group delete access password unless:
 - The group is not protected by a delete password.
 - Your privilege bypasses delete access password checks.
 - Your default access to the group includes delete access.
 - PRIVILEGE: You must have SETGROUP privilege to specify any group except your default group.
- /NOSPECIAL** Specifies only data (non-control) extents are to be migrated.
- **FORMAT:** /NOSPECIAL
 - **DEFAULT:** If you omit /NOSPECIAL, all extents of a file are migrated.
- /PASSWORDS** Specifies the file's delete password.
- **FORMAT:** /PASSWORDS=::deletepw
- You must specify a delete password unless:
- The file is not protected by a delete access password.
 - You have a privilege that bypasses delete access password checks.
- **DEFAULT:** If you omit /PASSWORDS, the password defaults to nulls.
 - **RESTRICTIONS:** /PASSWORDS is not allowed if the file or group name specification includes a wild card.
- /REPORT** Controls generation of text responses for MIGRATE filename. /REPORT instructs StorHouse to generate a text response. /NOREPORT instructs StorHouse not to generate a text response.
- **FORMAT:**
 - /REPORT
 - /NOREPORT
 - **DEFAULT:** /NOREPORT

- `/VERSION` Specifies the relative version number of the file to be migrated
- **FORMAT:**
 - `/VERSION=version`
 - `/VERSION=*`
 - **DEFAULT:** `/VERSION=0`
- `/WAIT` Instructs StorHouse to wait for a locked file to be unlocked before attempting to use it in the command execution.
- **FORMAT:**
 - `/WAIT`
 - `/NOWAIT`
 - **DEFAULT:** No `/WAIT` modifier. StorHouse aborts the command or processing of an item if the specified file version is not available.

did Parameter Modifiers

`/BYPASS_LABEL` Allows you to write a new internal label for a non-StorHouse/SM, non-blank tape or erasable optical volume(s).

Caution: When a new internal label is written on a volume, all data on that volume is erased.

- **FORMAT:** `/BYPASS_LABEL`
- **DEFAULT:** None; if you omit this modifier, the command does not write a new internal label for a volume(s) previously used by another application.
- **RESTRICTIONS:** This modifier is valid only when you specify `/BLANKS`.

/MEDIA Specifies the media and recording types of the library device free pool that will receive the volumes. (The `did` parameter specifies the library device.)

- **FORMAT:** `/MEDIA=mmr`

The media type is identified by the two-character code `mm`. The recording type is identified by the one-character code `r`. The `mmr` can be taken from the volume's `vid`. Valid media and recording types are listed under "Volume Identification Code" on page B-9.

- **DEFAULT:** If you omit `/MEDIA`, the default is the value of the `DEFAULT_MED_did` system parameter, where `did` is the library device specified by the `did` parameter. If you omit `/MEDIA` and the system parameter does not specify a valid media type and recording type, the system rejects the command.
- **RESTRICTIONS:** This modifier is valid only when you specify `/BLANKS`.

source_vset_name Parameter Modifiers

/CONFIRM Controls whether StorHouse asks the user to confirm the command.

- **FORMAT:** `/CONFIRM` or `/NOCONFIRM`
- **DEFAULT:** `/NOCONFIRM`

When the system requests a confirmation, enter `YES` (also `Y` or `YE`) or `NO` (also `N`). If you press `R` or enter any characters other than those described as a `YES` response, StorHouse interprets them as `NO`.

/MINIMUM Specifies the number of volume sides (automatically computed from the number of bytes that you enter) that should be empty or otherwise available for allocations after a `/BY_VSET` migration. If you want to migrate all of the files out of the source volume set, set the `/MINIMUM` to the value of the volume set's `LIMIT` attribute.

Note: If the source volume set consists of two-sided media and has a non-zero `CYCLE` attribute, `MIGRATE /BY_VSET` will be able to satisfy a `/MINIMUM` of only half the number of volume sides in the volume set or less because half of the volume sides will always be deactivated and not counted as empty volume sides. Any value higher than half the number of volume sides may cause the command to migrate some or all of the files in the volume set but will still return an unsuccessful status.

- **FORMAT:** `/MINIMUM=number_of_bytes`

The system automatically rounds `number_of_bytes` up to the maximum size of a volume side for the medium. Specify the `number_of_bytes` value as `n`, `nK`, `nM`, `nG`, or `nS`.

The letter *n* represents a numeric field. The value of *n* can range from 0 up to 4294967295. (Do not include commas when specifying a number with more than three digits.) K indicates that the number is in 1,000-byte units; M indicates 1,000,000-byte units; G indicates 1,000,000,000-byte units; and S indicates that the number is in units of volume sides; that is, the number of bytes that corresponds to the maximum volume size of one volume side. If you do not specify K, M, G, or S, the number defaults to 1-byte units.

- **DEFAULT:** None. /MINIMUM is required when you specify /BY_VSET.
- **RESTRICTIONS:** The value of /MINIMUM must be less than or equal to the value of the source volume set's LIMIT attribute.

/ORDER_BY Specifies the type of timestamp field to be used by StorHouse to sort volumes (in ascending order) before selecting them for a /BY_VSET migration. The system selects the logical volume with the lowest (oldest) time value indicated by /ORDER_BY.

- **FORMAT:** /ORDER_BY=timestamp_type

The timestamp_type must be one of the following:

- **FIRST** – date and time of first space allocation on volume side
- **LAST** – date and time of last space allocation on volume side
- **MODIFIED** – date and time of last write to volume side.
- **DEFAULT:** /ORDER_BY=LAST

/REPORT Controls the generation of special text responses for the completion of significant actions. /REPORT instructs StorHouse to generate a text response. /NOREPORT instructs StorHouse not to generate a text response.

- **FORMAT:** /REPORT or /NOREPORT
- **DEFAULT:** /NOREPORT

/WAIT Instructs StorHouse to wait for a locked file version to be unlocked before attempting to use it in the command execution. Without /WAIT, StorHouse returns an error status upon finding that the file is locked. /WAIT causes the system to wait for each file being processed.

- **FORMAT:** /WAIT or /NOWAIT
- **DEFAULT:** /WAIT

Examples

- To migrate files from the performance buffer to their primary file sets, enter:

```
? MIGRATE
```

This command migrates the file extents that are least likely to be used and attempts to free space until the value of the MIG_MAX system parameter is exceeded. If the available space on level F exceeds the value of MIG_MAX when you enter the command, no files will be migrated.

- To migrate files from the performance buffer to their primary file sets, enter:

```
? MIGRATE /ALL
```

This command migrates all file extents, including those from performance buffer space that is reserved by a group for its exclusive use.

- To initiate the migration of five blank physical volumes into the free pool containing media OAD (12-inch, write-once, double-density optical media) in library device L00, enter:

```
? MIGRATE L00 /BLANKS=5 /MEDIA=OAD
```

StorHouse requests the operator to label the blank physical volumes and load them individually into the library device's exchange station.

- To initiate a migration of files from the source volume set USRVSETS to the destination volume set USRVSETD, selecting volume sides with the oldest last-allocation date first (as indicated by the default value of /ORDER_BY), specifying a minimum of six sides, and instructing the command to wait rather than return an error when trying to relocate a locked file, enter:

```
? MIGRATE /BY_VSET USRVSETS /MINIMUM=6S /WAIT USRVSETD
```

If the source volume set has already reached its LIMIT and there are already two empty volume sides in the volume set, the system selects the volumes with the oldest last-allocation date first, migrates all files off the volumes, and erases the volumes until it has four more empty sides. If the system cannot free the selected volumes, it will return an error status.

- To write new internal labels for five non-StorHouse/SM, non-blank volumes in library device L00, enter:

```
? MIGRATE L00 /BLANKS=5 /BYPASS_LABEL
```

- To migrate file extents of the file USERFILE, enter:

```
? MIGRATE USERFILE
```

If a copy of an extent of USERFILE exists in the performance buffer and in its primary file set, StorHouse simply removes the performance buffer copy.

MONITOR

The MONITOR command displays the following current statistics for StorHouse:

- Command
- Drive
- Library
- Network
- Performance
- Storage
- Usage
- Volume

Format

MONITOR

COMMAND FORMAT SUMMARY					
COMMAND PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
MONITOR	SHOW	-	-	-	-
/ALL	-	-	-	-	-
/COMMAND	-	-	-	-	-
/CONTINUOUS=...	-	-	-	-	-
/DRIVE	-	-	-	-	-
/INTERVAL=...	-	-	-	-	See text
/LIBRARY	-	-	-	-	-
/NETWORK	-	-	-	-	-
/PERFORMANCE	-	-	-	-	See text
/RESET	SYSTEM	-	-	-	-
/STORAGE	-	-	-	-	-
/USAGE	-	-	-	-	-
/VOLUME	-	-	-	-	-

Description

MONITOR displays current system command, drive, library, network, performance, storage, and usage statistics. You can display a set of statistics once or use /CONTINUOUS to update them at a specified interval until you abort the command. The system displays file and storage sizes in 1000-byte units (except where indicated otherwise).

To abort the command:

- From IBM MVS host terminals, type BREAK. On a 3270 terminal, press **PA1**.
- From UNIX host terminals, press the **C** and **C** keys simultaneously.

Command Modifiers

/ALL Displays all current statistics.

MONITOR /ALL displays eight sets of statistics: command, drive, library, network, performance, storage, system usage (one set at a time), and volume. A set consists of the statistics displayed for one of the *selection* modifiers (/COMMAND, /DRIVE, /LIBRARY, /NETWORK, /PERFORMANCE, /STORAGE, /USAGE, and /VOLUME). MONITOR displays all storage and file sizes in 1000-byte units, except where indicated otherwise. MONITOR displays each set of statistics for the number of seconds you specify with /INTERVAL or its default. You can also select /CONTINUOUS if you want continuous updates of all statistics.

- **FORMAT:** /ALL
- **DEFAULT:** No /ALL modifier. If you omit /ALL and all selection modifiers, the system displays only performance statistics.

/COMMAND Displays statistics for commands that have been entered in addition to any other selected statistics. Also displays whether there is a BACKUP or MIGRATE in progress.

- **FORMAT:** /COMMAND
- **DEFAULT:** No /COMMAND modifier. If you omit /COMMAND, command statistics are not displayed (unless you specify /ALL).

/CONTINUOUS Displays continuous updates of statistics.

- **FORMAT:** /CONTINUOUS=*update_interval* or /CONTINUOUS

After displaying the last set of statistics selected by command modifiers, MONITOR waits for the number of seconds you specify with /CONTINUOUS (the *update_interval* or its default) before displaying the next update of the first set of statistics. MONITOR still displays each set of statistics for the number of seconds specified by /INTERVAL or its default. You must abort the command to discontinue the updates.

- **DEFAULT:** If you omit /CONTINUOUS, MONITOR displays each selected set of statistics one time. If you include /CONTINUOUS, but do not specify the number of seconds between updates, MONITOR waits 10 seconds between updates, which is the default value.

/DRIVE Displays statistics for each library device drive.

- **FORMAT:** /DRIVE
- **DEFAULT:** No /DRIVE modifier. If you omit /DRIVE, drive statistics are not displayed (unless you specify /ALL).

- /INTERVAL** Displays each selected set of statistics for the number of seconds specified by the **/INTERVAL** modifier's `display_interval`.
- **FORMAT:** `/INTERVAL=display_interval`
 - **DEFAULT:** MONITOR displays each selected set of statistics for 10 seconds.
- /LIBRARY** Displays statistics for each library device.
- **FORMAT:** `/LIBRARY`
 - **DEFAULT:** No `/LIBRARY` modifier. If you omit `/LIBRARY`, library device statistics are not displayed (unless you specify `/ALL`).
- /NETWORK** Displays network statistics for each active StorHouse network connection.
- **FORMAT:** `/NETWORK`
 - **DEFAULT:** No `/NETWORK` modifier. If you omit `/NETWORK`, network statistics are not displayed (unless you specify `/ALL`).
- /PERFORMANCE** Displays performance statistics for major commands, such as the GET and PUT commands.
- **FORMAT:** `/PERFORMANCE`
- File sizes are displayed in 1000-byte units.
- **DEFAULT:** No `/PERFORMANCE` modifier. However, the default is `/PERFORMANCE` if no other selection modifiers are specified.
- /RESET** The system begins to compile the statistics when it is started, and continues collecting them until it is shut down. The system initializes its statistics databases at start up or when you enter MONITOR with `/RESET`. You can reset the usage statistics by entering the `MONITOR /RESET /USAGE` command. You can reset the command and performance statistics with either the `MONITOR /RESET /COMMAND` or the `MONITOR /RESET /PERFORMANCE` command. Finally, you can reset the drive and library statistics with the `MONITOR /RESET /DRIVE` or the `MONITOR /RESET /LIBRARY` command. You can also reset multiple types of statistics using one command.
- **FORMAT:** `/RESET`
 - **DEFAULT:** No `/RESET` modifier.
 - **PRIVILEGE:** You must have ALLPRIVILEGE or SYSTEM privilege to use `/RESET`.
 - **RESTRICTION:** You cannot reset network, storage, or volume statistics with MONITOR.

- /STORAGE** Displays storage statistics for levels of storage in addition to any other selected statistics. Storage sizes are displayed in 1000-byte units.
- **FORMAT:** /STORAGE
 - **DEFAULT:** No /STORAGE modifier. If you omit /STORAGE, storage statistics are not displayed (unless you specify /ALL).
- /USAGE** Displays system usage statistics (including CPU usage, library and drive usage, volume usage, and directory usage) in addition to any other selected statistics. Storage sizes are displayed in 1 MB units.
- Note:** System parameters LOG_COPY, LOG_FILE, and LOG_VOLUME must be set to TRUE to collect the appropriate statistics.
- **FORMAT:** /USAGE
 - **DEFAULT:** No /USAGE modifier. If you omit /USAGE, system usage statistics are not displayed (unless you specify /ALL).
- /VOLUME** Displays volume-related statistics.
- **FORMAT:** /VOLUME
 - **DEFAULT:** No /VOLUME modifier. If you omit /VOLUME, volume statistics are not displayed (unless you specify /ALL).

Examples

- To display sets of all current StorHouse command, drive, library, network, performance, storage, system usage, and volume statistics, and display each set for 30 seconds, enter:

```
? MONITOR /ALL /CONTINUOUS /INTERVAL=30
```

StorHouse waits 10 seconds, the default value for /CONTINUOUS, before displaying the next set of statistics. To terminate the display, abort the command.
- To display storage statistics for all levels of storage, enter:

```
? MONITOR /STORAGE
```

The statistics display once.
- To display system usage statistics, enter:

```
? MONITOR /USAGE
```


- To display network statistics for each active StorHouse session, enter:
? MONITOR /NETWORK
- To reset the usage, library, and drive statistics, enter:
? MONITOR /RESET /USAGE /LIBRARY
- To display statistics for StorHouse volumes, enter:
? MONITOR /VOLUME

MOVE VOLUME

The MOVE VOLUME command moves a level L or level S physical volume to a specified location within StorHouse.

Format

MOVE VOLUME vid did

COMMAND FORMAT SUMMARY					
COMMAND PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
MOVE VOLUME	OPERATOR	-	-	-	
/CONFIRM	-	-	-	-	
/REPORT	-	-	-	-	
vid	-	-	-	-	(Required)
/DIRECTORY=...	-	-	-	-	-
/DUPLEXED	-	-	-	-	-
/FIRST_ALLOCATION=...	-	-	-	-	-
/LAST_ALLOCATION=...	-	-	-	-	-
/LOCATION=...	-	-	-	-	-
/MEMO=...	-	-	-	-	-
/NEEDS_CLEANING	-	-	-	-	-
/UNUSED=...	-	-	-	-	-
/SET=...	-	-	-	-	-
/WRITELOCK	-	-	-	-	-
did	-	-	-	-	(Required)

Description

MOVE VOLUME moves one or more physical volumes from their current locations to a specified device location within StorHouse. The command updates the last access time for each volume moved, so it will become the least likely volume within its HOLD state to be migrated out of a library device if the command moves it into one.

The command can be used to move one or more physical volumes from:

- One or more library devices to shelf storage
- Shelf storage to one or more library devices

- One or more library devices to one other library device.

If the specified physical volume is already located in the specified destination, the system responds as if the volume were moved successfully.

Each library device has a corresponding shelf storage. For example, the shelf storage for library device L00 is S00. The shelf storage for L01 is S01. If you do not give a specific destination device in the command when moving physical volumes between library devices and shelf devices, StorHouse matches the unit number of the volume's current device to the unit number of the destination device. For example, if you specify S as the destination device (in the `did` parameter) and a volume being moved currently resides in L01, StorHouse moves the volume to S01. If you then move the volume to device L, StorHouse moves it to L01.

MOVE VOLUME generates operator request messages to load, unload, or move volumes.

Note: If you execute MOVE VOLUME from the StorHouse console or from any user terminal, the command locks up that StorHouse session until the operator satisfies the move request. To avoid this, SGI recommends that you execute MOVE VOLUME using the StorHouse Command Language SCHEDULE command. Because SCHEDULE does not conflict with operator requests, you can reply to messages from your terminal.

If you use a wild card in the volume identifier parameter, you must specify the /VSET or /LOCATION modifier. This restriction helps you to avoid moving volumes you do not intend to move. You can use /VSET, /LOCATION, and the other modifiers listed below to select the volumes you want to move:

- /DIRECTORY selects volumes from the PRIMARY, BACKUP, or ARCHIVE directory.
- /DUPLEXED selects a volume if every file extent on the volume has a duplex copy and the duplex copy is on a volume that does not have a disabled side. For primary files, a duplex copy is a copy in the directory specified by the DUPLEX_DIRECTORY system parameter. For a backup or archive file, a duplex copy is a copy in the PRIMARY directory.
- /FIRST_ALLOCATION selects each volume that has a first allocation date within a specified range.
- /LAST_ALLOCATION selects each volume that has a last allocation date within a specified range.
- /LOCATION selects volumes that are in the specified device location.
- /NEEDS_CLEANING selects volumes that need cleaning.

- `/UNUSED` selects volumes that have no more than a specified percentage or amount of their writable space remaining.
- `/VSET` selects volumes from a specified volume set.

If you want to select volumes that meet multiple conditions (for example, `/UNUSED and /DUPLEXED`), enter one command with all necessary modifiers. If you want to select volumes that meet one condition or another (for example, `/UNUSED or /DUPLEXED`), enter a separate command with the necessary modifier(s) to meet each condition.

You can specify `/WRITELOCK` to writelock each volume selected by `MOVE VOLUME`. Writelocking a volume prevents any additional files from being written to the volume. You can use `SET VOLUME /UNWRITELOCK` to remove the writelock from volumes.

You can specify up to 32 characters of descriptive text to be added to the volume information in the StorHouse system files by using the `/MEMO` modifier. The text might be used to describe the location of a volume that is being moved, such as a shelf number. The system includes the `/MEMO` text in a request to the operator to load, unload, or move a volume.

Parameters

- `vid` Specifies the volume identifier (`vid`) of the volume(s) to be moved. (The braces “{ }” are not part of the specification.)
- **FORMAT:**
 - `{media_type}{recording_type}{volume_label}`
 - `{media_type}{recording_type}{partial_volume_label}`*
 - `{media_type}{recording_type}`*
 - `{media_type}`*
 - *
 - **DEFAULT:** None; you must specify this parameter.
 - **RESTRICTIONS:**
 - If you specify a wild card in the `vid` parameter and a unit in the `did` parameter, the specified unit must be compatible with the media and recording types of the selected volumes.
 - If you specify a wild card in the `vid` parameter, you must also specify `/VSET` or `/LOCATION`.

- did** Specifies the location to which the volume is to be moved.
- **FORMAT:** Specifies a device identification code (did), which must include a device level and can include a unit number (the braces “{ }” are not part of the specification):
 - {level}{unit}
 - level
 - **FORMAT RESTRICTIONS:** The level must be L (library) or S (shelf).
 - **DEFAULT:** None; you must specify this parameter (level is required; unit is optional). If you do not specify a unit, the system will assign one that matches the unit of the source device.
 - **RESTRICTIONS:** If you specify a wild card in the vid parameter and a unit in the did parameter, the specified unit must be compatible with the media and recording types of the selected volumes.

Command Modifiers

/CONFIRM Controls whether StorHouse asks you to confirm the command.

- **FORMAT:** /CONFIRM or /NOCONFIRM
- **DEFAULT:** /NOCONFIRM

When the system requests a confirmation, enter YES (also Y or YE) or NO (also N). If you press R or enter any characters other than those described as a YES response, StorHouse interprets them as NO.

/REPORT Controls the generation of special text responses for the completion of significant actions. /REPORT instructs StorHouse to generate a text response. /NOREPORT instructs StorHouse not to generate a text response.

- **FORMAT:** /REPORT or /NOREPORT
- **DEFAULT:** /NOREPORT

Parameter Modifiers

- /DIRECTORY** Specifies the directory from which volumes are to be selected.
- **FORMAT:**
 - /DIRECTORY=ARCHIVE
 - /DIRECTORY=BACKUP
 - /DIRECTORY=PRIMARY
 - **DEFAULT:** If you omit /DIRECTORY, the system does not use the directory of a volume to select volumes.
 - **RESTRICTIONS:**
 - /DIRECTORY and /VSET are mutually exclusive.
 - Any volume identifier specified in the volume identifier parameter must be in the directory specified by /DIRECTORY or no volumes will be moved.
- /DUPLEXED** Selects a volume if every file extent on the volume has a duplex copy and the duplex copy is on a volume that does not have a disabled side. For primary files, a duplex copy is a copy in the directory specified by the DUPLEX_DIRECTORY system parameter. For a backup or archive file, a duplex copy is a copy in the PRIMARY directory.
- Note:** This modifier can cause the command to access the directories for each file extent on a volume. This can add a significant amount of processing time to the command if volumes tend to contain a large number of file extents. SGI recommends that you include other selection modifiers with the command to help limit the number of volumes that have to be checked for duplex extent copies.
- **FORMAT:** /DUPLEXED
 - **DEFAULT:** If you omit /DUPLEXED, the system does not use the status of duplex copies of file extents to select volumes.
- /FIRST_ALLOCATION** Specifies the time period from which volumes are to be selected, based on their first allocation dates. For two-sided volumes, the first allocation dates for both sides must be within the time period.
- **FORMAT:** /FIRST_ALLOCATION=(from_date<, to_date>)
- The from_date specifies the oldest first allocation date-time, and the to_date specifies the most recent. You must specify a from_date. The date-times can be absolute or delta times. See Appendix B, “Data Field, Parameter, and Modifier Definitions” for a full description of the absolute time and delta time data fields.

Absolute time specifies a calendar date and clock time. Specify absolute time as:

<<day>-<month>-<year>><:<hour><:<minute><:<second>>>

Delta time specifies an amount of time before the command was invoked. Specify delta time as:

D<days-><hours<:<minutes<:<seconds>>>

The default for any field that is not specified in a delta time is zero.

- DEFAULT:
 - If you do not specify /FIRST_ALLOCATION, the command does not select volumes by first allocation date.
 - If you specify /FIRST_ALLOCATION but do not specify a to_date, the default to_date is the current date and time (when the command is invoked).

/LAST_
ALLOCATION

Specifies the time period from which volumes are to be selected, based on their last allocation dates. For two-sided volumes, the last allocation dates for both sides must be within the time period.

- FORMAT: /LAST_ALLOCATION=(from_date<, to_date>)

The from_date specifies the oldest last allocation date-time, and the to_date specifies the most recent. You must specify a from_date. The date-times can be absolute or delta times. See Appendix B, "Data Field, Parameter, and Modifier Definitions" for a full description of the absolute time and delta time data fields.

Absolute time specifies a calendar date and clock time. Specify absolute time as:

<<day>-<month>-<year>><:<hour><:<minute><:<second>>>

Delta time specifies an amount of time before the command was invoked. Specify delta time as:

D<days-><hours<:<minutes<:<seconds>>>

The default for any field that is not specified in a delta time is zero.

- DEFAULT:
 - If you do not specify /LAST_ALLOCATION, the command does not select volumes by last allocation date.
 - If you specify /LAST_ALLOCATION but do not specify a to_date, the default to_date is the current date and time (when the command is invoked).

- /LOCATION** Specifies the location (that is, the source device) from which volumes are to be selected.
- **FORMAT:** Specifies a device identification code (did), which must include a device level and can include a unit number (the braces “{ }” are not part of the specification):
 - `/LOCATION={level}{unit}`
 - `/LOCATION=level`
 - **FORMAT RESTRICTIONS:** The level must be L (library) or S (shelf).
 - **DEFAULT:** If you do not specify `/LOCATION`, the system does not use the location to select volumes.
 - **RESTRICTIONS:** If you specify a wild card in the `vid` parameter, you must also specify `/VSET` or `/LOCATION`.
- /MEMO** Specifies up to 32 characters of descriptive text to be added to the StorHouse system files. The text might be used to describe the location of a volume that is being moved, such as a shelf number. You must enclose the field in quotes if you want to enter special characters or do not want to have lowercase characters translated to uppercase characters.
- The memo is displayed by the `SHOW VOLUME` command. You can change or cancel the text of this memo using the `SET VOLUME` command or another `MOVE VOLUME` command with `/MEMO`.
- **FORMAT:** `/MEMO=text`
- You can enter a maximum of 32 printable ASCII characters. If you specify no text (for example, `/MEMO=""` or `/NOMEMO`), any existing memo for the volume is canceled.
- **DEFAULT:** If you omit `/MEMO`, this modifier has no effect.
- /NEEDS_CLEANING** Selects volumes that need cleaning. (For two-sided volumes, this modifier applies to one or both sides.)
- **FORMAT:** `/NEEDS_CLEANING`
 - **DEFAULT:** If you omit `/NEEDS_CLEANING`, the system does not select volumes based on the `NEEDS_CLEANING` state.
- /UNUSED** Selects volumes that have no more than a specified percentage or amount of their writable space remaining. For two-sided volumes, the unused space for each side must be within the percentage or amount.

You can use this modifier to select volumes that do not have enough writable space left to hold a normal file or extent. For example, you may wish to move backup volumes out of a library to remote shelf storage when they no longer have enough writable space to hold an average file.

When using percentages, be aware of the sizes of volumes. For example, one percent of a one-gigabyte volume is 10 megabytes, which may be smaller than your normal file or extent size, but one percent of a 10-gigabyte volume is 100 megabytes, which may be larger than your normal file or extent size.

Note: It is unlikely that there will be volumes with none of their writable space remaining.

- **FORMAT:** /UNUSED=number_of_bytes or /UNUSED=percentageP

The value for number_of_bytes can range from 0 up to 4,294,967,295 (do not use commas in the specification). Use K to indicate 1,000-byte units, M to indicate 1,000,000-byte units, and G to indicate 1,000,000,000-byte units. If you do not specify K, M, or G, the number defaults to 1-byte units.

The value for percentage can range from 0 to 100 and must be followed by the letter P.

- **DEFAULT:** If you omit /UNUSED, the command does not select volumes based on remaining writable space.

/VSET Specifies the volume set from which volumes are to be selected.

- **FORMAT:** /VSET=vset_name
- **FORMAT RESTRICTIONS:** Wild cards are not allowed.
- **DEFAULT:** If you do not specify /VSET, the system does not use the volume set name to select volumes.
- **RESTRICTIONS:**
 - /VSET and /DIRECTORY are mutually exclusive.
 - The volume identifier parameter and /VSET must be compatible, or no volumes will be moved.
 - If you specify a wild card in the vid parameter, you must also specify /VSET or /LOCATION.

/WRITELOCK Indicates that the command will writelock each volume selected to be moved. Writelocking a volume prevents any additional files from being written to the volume. This may be desirable when moving volumes out of libraries for long term storage on shelves or at another site. You can unwritelock a volume using the SET VOLUME command.

- **FORMAT:** /WRITELOCK
- **DEFAULT:** If you do not specify /WRITELOCK, the command does not writelock selected volumes.

Examples

- To move the optical volume OAD21C68147 to level S storage (device S00), enter:

```
? MOVE VOLUME OAD21C68147 S00
```

You must have OPERATOR privilege to execute this command. The operator receives a request to unload the cartridge from the library device and place it on level S storage. If the volume is already located on level S, StorHouse responds as if it has successfully executed the command (by returning the ? prompt).

- To move the optical volume OAD21C68147 to library device 01, enter:

```
? MOVE VOLUME OAD21C68147 L01
```

You must have OPERATOR privilege to execute this command. Assuming that the volume is located in library device 00, the operator receives two messages: first, to unload the volume from library device 00, and then to load it into library device 01. If the volume is already located in L01, StorHouse responds as if it has successfully executed the command, without issuing an operator request.

- To move the optical volume OAD21C68147 out of the library device to shelf and add a memo to the StorHouse system files indicating that the volume has been moved to slot 10 in rack 3, enter:

```
? MOVE VOLUME OAD21C68147 S /MEMO="Rack 3 Slot 10"
```

- To move physical volumes out of library devices to shelf storage with the following conditions:

- The volumes are backup volumes
- The volumes have a first allocation date between September 1, 1999, and seven days before the current date
- Writelock each volume moved
- Add a memo to the volume information in the StorHouse system files for each volume moved.

Enter:

```
? MOVE VOLUME * /DIRECTORY=BACKUP /FIRST_ALLOCATION=(1-SEP-1999, D7-) /WRITELOCK /MEMO="OFFSITE STORAGE SITE" S
```

The system will include the memo in each unload or move request sent to the operator.

- To move physical volumes out of library devices to shelf storage with the following conditions:
 - The volumes are backup volumes
 - The volumes have a first allocation date between September 1, 1999, and the current date
 - The volumes have no more than 100,000,000 bytes of writable storage remaining
 - Writelock each volume moved
 - Add a memo to the volume information in the StorHouse system files for each volume moved.

Enter:

```
? MOVE VOLUME * /DIRECTORY=BACKUP /FIRST_ALLOCATION=(1-SEP-1999) /UNUSED=100M /WRITELOCK /MEMO="OFFSITE STORAGE SITE" S
```

The system will include the memo in each unload or move request sent to the operator.

- To move physical volumes out of library devices to shelf storage with the following conditions:
 - The volumes are backup volumes
 - The volumes have a last allocation date between November 10, 1999, and December 20, 1999
 - The volumes now have accessible primaries (for example, they are part of a set of backup volumes that were moved from shelf to a library device to create replacement volumes for destroyed primaries)
 - Add a memo to the volume information in the StorHouse system files for each volume moved

Enter:

```
? MOVE VOLUME * /DIRECTORY=BACKUP /LAST_ALLOCATION=(10-NOV-1999, 20-DEC-1999) /DUPLICATED /MEMO="OFFSITE STORAGE SITE" S
```

The system will include the memo in each unload or move request sent to the operator.

- To move all volumes that need cleaning to shelf storage, enter:

```
? MOVE VOLUME * S /LOCATION=L /NEEDS_CLEANING
```

MOVE VSET

The MOVE VSET command moves all physical volumes in a level L or level S volume set to a specified location within StorHouse.

Format

MOVE VSET vset_name did

COMMAND FORMAT SUMMARY					
COMMAND PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
MOVE VSET	OPERATOR	-	-	-	-
/CONFIRM	-	-	-	-	-
/REPORT	-	-	-	-	-
vset_name	-	-	-	-	(Required)
/MEMO=...	-	-	-	-	-
did	-	-	-	-	(Required)

Description

MOVE VSET moves the physical volumes in a volume set from their current locations to a specified device location within StorHouse. The command updates the last access time for each volume, so the volume will become the least likely volume to be migrated out of a library device if the command moves it into one. This command does not change the library device attribute for the volume set, only the location of its current volumes.

The command can be used to move physical volumes in a volume set from a library device to shelf storage, from shelf storage to a library device, from one library to another, or from a variety of locations to a single device location. If one or more of the specified volume set's volumes are already located in the specified destination, the system responds as if those volumes were moved successfully.

Each library device has a corresponding shelf storage. For example, the shelf storage for library device L00 is S00. The shelf storage for L01 is S01. If you do not give a specific destination device in the command when moving a volume set between library devices and shelf devices, StorHouse matches the unit number of each volume's current device to the unit number of the destination device. For example, if you specify S as the destination device (in the did parameter) and a volume being moved currently resides in L01, StorHouse moves the volume to S01. If you then move the volume to device L, StorHouse moves it to L01.

If you move a physical volume from one library (or its shelf) to another library (or its shelf) and that volume cannot be written in the target library (such as a Hitachi-1 volume in a Hitachi-2 library), StorHouse will writelock that volume. Similarly, you cannot move an empty (free pool) volume that cannot be written in the target library.

MOVE VSET generates an operator request message to load or unload a physical volume or volumes. If you execute MOVE VSET from the StorHouse console or from any user terminal, the command locks up that StorHouse session until the operator satisfies the move request. To avoid this, SGI recommends that you execute MOVE VSET using the StorHouse Command Language SCHEDULE command. Because SCHEDULE does not block the StorHouse session, you can reply to the operator messages from your terminal.

Parameters

- vset_name** Specifies the volume set to be moved.
- **FORMAT:** vset_name
- Volume set names can contain 1 to 8 characters, consisting of the following ASCII characters: A-Z (uppercase), 0-9, _ (underscore), and \$ (dollar sign). StorHouse always translates volume set names to uppercase characters, even if they are enclosed in quotes.
- **FORMAT RESTRICTIONS:** Wild cards are not allowed.
 - **DEFAULT:** None; you must specify this parameter.
- did** Specifies the location to which the volume set is to be moved.
- **FORMAT:** Specifies a device identification code (did), which must include a device level and can include a unit number (the braces “{ }” are not part of the specification):
 - {level}{unit}
 - level
 - **FORMAT RESTRICTIONS:** The level must be L (library) or S (shelf).
 - **DEFAULT:** None; you must specify this parameter (level is required; unit is optional). If you do not specify a unit, the system will assign one that matches the unit of the source device.
 - **RESTRICTIONS:** If you specify a wild card in the vid parameter and a unit in the did parameter, the specified unit must be compatible with the media and recording types of the selected volumes.

Command Modifiers

/CONFIRM Controls whether StorHouse asks you to confirm the command.

- **FORMAT:** /CONFIRM or /NOCONFIRM
- **DEFAULT:** /NOCONFIRM

When the system requests a confirmation, enter YES (also Y or YE) or NO (also N). If you press R or enter any characters other than those described as a YES response, StorHouse interprets them as NO.

/REPORT Controls the generation of special text responses for the completion of significant actions. /REPORT instructs StorHouse to generate a text response. /NOREPORT instructs StorHouse not to generate a text response.

- **FORMAT:** /REPORT or /NOREPORT
- **DEFAULT:** /NOREPORT

Parameter Modifiers

/MEMO Specifies up to 32 characters of descriptive text to be added to the StorHouse system files for each volume in the volume set. The text might be used to describe the location of a volume set that is being moved, such as a shelf number. You must enclose the field in quotes if you want to enter special characters or do not want to have lowercase characters translated to uppercase characters.

The SHOW VSET command displays the memo for the first volume in the volume set. You can change or cancel the text of this memo for all volumes in the volume set using the SET VSET command or another MOVE VSET command with /MEMO.

- **FORMAT:** /MEMO=text

You can enter a maximum of 32 printable ASCII characters. If you specify no text (for example, /MEMO="" or /NOMEMO), any existing memo for the volume set is canceled.

- **DEFAULT:** If you omit /MEMO, this modifier has no effect.

Examples

The following examples assume that the specified volume set resides in library device L00 and that the volume set contains physical volumes.

- To move all volumes in the volume set USERVSET from their current location(s) to library device 01, enter:

```
? MOVE VSET USERVSET L01
```

Volumes are moved individually. You must have OPERATOR privilege to execute this command.

The operator receives two messages for each volume: first, to unload the volume from library device 00, and then to load the volume into library device 01. If any volumes are already located in L01, StorHouse responds as if it has moved them successfully.

- To move all volumes in the volume set USERVSET to level S (device S00) and attach the comment "Rack 4" to designate the volume set's new location, enter:

```
? MOVE VSET USERVSET S00 /MEMO="Rack 4"
```

Volumes are moved individually. You must have OPERATOR privilege to execute this command.

The operator receives a message to unload each volume in the volume set from the library device and place it on level S storage. If any volumes are already located on level S, StorHouse responds as if it has moved them successfully.

NEWLOG

The NEWLOG command closes the current system logs and opens new ones.

Format

NEWLOG

COMMAND FORMAT SUMMARY					
COMMAND PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
NEWLOG	SYSTEM	-	-	-	-
/ADMINISTRATION	-	-	-	-	/ADMINISTRATION
/REPORT	-	-	-	-	-
/USER	-	-	-	-	/USER

Description

NEWLOG closes the current versions of the system administration and user (management information) logs and opens a new version of each. The command also writes the old version of the user log into a StorHouse file.

If you specify /ADMINISTRATION, only the administration log is affected. If you specify /USER, only the user log is affected.

You can schedule NEWLOG using the SCHEDULE command.

Command Modifiers

/ADMINISTRATION Specifies that the current system administration log is to be closed and a new version opened.

- **FORMAT:** /ADMINISTRATION
- **DEFAULT:** If you omit /ADMINISTRATION and /USER, the defaults are /ADMINISTRATION and /USER. If you specify either, then the unspecified one defaults to no modifier.

- /REPORT** Controls the generation of special text responses for the completion of significant actions. /REPORT instructs StorHouse to generate a text response. /NOREPORT instructs StorHouse not to generate a text response.
- **FORMAT:** /REPORT or /NOREPORT
 - **DEFAULT:** /NOREPORT
- /USER** Specifies that the current user (management information) log is to be closed and written to a StorHouse file, and a new version is to be opened.
- **FORMAT:** /USER
 - **DEFAULT:** If you omit /ADMINISTRATION and /USER, the defaults are /ADMINISTRATION and /USER. If you specify either, then the unspecified one defaults to no modifier.

Examples

- To close the current system administration and user logs and open new versions of both, enter:

```
? NEWLOG
```
- To close the current system administration log and open a new version, enter:

```
? NEWLOG /ADMINISTRATION
```
- To close the current user log and open a new version, enter:

```
? NEWLOG /USER
```

PURGE

The PURGE command deletes older versions of StorHouse files.

Format

PURGE filename

COMMAND FORMAT SUMMARY					
COMMAND PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
PURGE	DELETE	-	-	-	-
/CONFIRM	-	-	-	-	-
/REPORT	-	-	-	-	-
filename	-	D	D	-	(Required)
/DIRECTORY=...	SYSTEM	-	-	-	PRIMARY
/GROUP=...	SETGROUP	D	-	-	Current default
/KEEP=...	-	-	-	-	-
/PASSWORDS=...	-	-	-	-	-
/WAIT	-	-	-	-	-

Description

PURGE deletes all older versions of a primary file until the number of versions remaining equals the value of the file's LIMIT attribute.

Because archive and backup copies of files do not have LIMIT attributes, you must specify /KEEP=n when purging files in the archive and backup directories.

You can schedule PURGE using the StorHouse Command Language SCHEDULE command.

Parameters

filename Specifies the file for which older versions are to be deleted.

- FORMAT:
 - filename
 - partial_filename*
 - *

The wild card is valid only if you specify it as the last or only character in the name.

- **DEFAULT:** None; you must specify this parameter.
- **ACCESS REQUIREMENTS:** Delete access to the file and group.

Command Modifiers

/CONFIRM Controls whether StorHouse asks you to confirm each item being deleted.

- **FORMAT:** /CONFIRM or /NOCONFIRM
- **DEFAULT:** /NOCONFIRM

When the system requests a confirmation, enter YES (also Y or YE) or NO (also N). If you press **R** or enter any characters other than those described as a YES response, StorHouse interprets them as NO.

If multiple files are to be purged, the system requests confirmation for each item and allows an END (also E or EN) response. END directs the system not to perform the command for the current file and subsequent files.

/REPORT Controls the generation of special text responses for the completion of significant actions. /REPORT instructs StorHouse to generate a text response. /NOREPORT instructs StorHouse not to generate a text response.

- **FORMAT:** /REPORT or /NOREPORT
- **DEFAULT:** /NOREPORT

Parameter Modifiers

/DIRECTORY Specifies the directory in which files are to be purged.

- **FORMAT:**
 - /DIRECTORY=ARCHIVE
 - /DIRECTORY=BACKUP
 - /DIRECTORY=PRIMARY
- **DEFAULT:** /DIRECTORY=PRIMARY
- **PRIVILEGES:** Requires SYSTEM privilege.

/GROUP Specifies a file access group name and, optionally, group passwords.

- **FORMAT:**
 - /GROUP=groupname<:::deletepw>
 - /GROUP=partial_groupname*
 - /GROUP=*
- **FORMAT RESTRICTIONS:** Do not specify the delete password if the groupname includes a wildcard.
- **DEFAULT:**
 - If you omit /GROUP, the default is your current default group and default delete access rights.
 - If you specify the current default group name and do not specify a delete password, the defaults for your delete access rights apply.
 - If you specify a group name that is not the current default group and do not specify a delete password, the delete password defaults to null.
- **ACCESS REQUIREMENTS:** Delete access to the group. You must specify the delete password unless:
 - The group is not protected by a delete password.
 - Your privilege bypasses the delete password checks.
 - Your default access to the group includes delete access.
- **PRIVILEGE:** You must have SETGROUP privilege to specify any group except your default group.

/KEEP Specifies the number of versions to keep.

- **FORMAT:** /KEEP=number

The number must be an integer from 1 through 32768 when purging files in the primary directory. For files in the archive and backup directories, the number must be an integer from 1 through 65536.

- **DEFAULT:** If you omit /KEEP, the system keeps the number of versions indicated by the LIMIT attribute for the file.
- **RESTRICTIONS:** You must specify /KEEP when purging archive and backup copies of files.

/PASSWORDS Specifies the file's delete password to gain delete access to the file.

- **FORMAT:** /PASSWORDS=::deletpw

You must specify the file's delete password unless:

- The file is not protected by a delete password.
- Your privilege bypasses delete password checks.
- **FORMAT RESTRICTIONS:** You cannot specify /PASSWORDS if filename includes a wild card.
- **DEFAULT:** If you omit /PASSWORDS, the password defaults to nulls.

/WAIT Indicates that StorHouse is to wait for a locked file version to be unlocked before attempting to purge it.

- **FORMAT:** /WAIT
- **DEFAULT:** No /WAIT modifier. StorHouse aborts the command or processing of a file version if a specified file version is not available.

Examples

- To select versions of the file USERFILE in the PRIMARY directory (the default when no directory is specified) until the number of versions remaining equals the value of the file's LIMIT attribute, enter:

```
? PURGE USERFILE
```

Beginning with the oldest version, this command deletes all versions of the file USERFILE located in your default access group that exceed the file's LIMIT attribute. For example, if USERFILE's LIMIT attribute is decreased from a higher number to 3, all but the 3 most recent versions (relative versions 0, -1, and -2) are deleted.

- StorHouse can be instructed to retain a number of versions that is less than the value of USERFILE's LIMIT attribute. For example, to execute the command when USERFILE's LIMIT is 50, enter:

```
? PURGE USERFILE /KEEP=10
```

StorHouse retains only the 10 most recent versions of USERFILE (0 through -9). It marks all older versions (-10 through -49) as deleted.

PUT

The PUT command transfers a copy of a file on host storage to StorHouse, automatically creating a new StorHouse file or file version.

Format

PUT filename

COMMAND FORMAT SUMMARY					
COMMAND PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
PUT	PUT	-	-	-	-
/CONFIRM	-	-	-	-	-
/REPORT	-	-	-	-	/REPORT
filename	- +	W	W ¹	-	(Required)
/ASCII	-	-	-	-	
/ATF=...	ATF	D	D	-	-
/BINARY	-	-	-	-	
/DATA=...	-	-	-	-	-
/DELETE	-	-	2	-	-
/EDC=...	-	-	-	-	See text
/FSET=...	-	-	-	-	Current default
/GROUP=...	SETGROUP	W	-	-	Current default
/HOSTNAME=...	-	-	1	-	-
/LIMIT=...	DELETE	D	D	-	-
/LOCK	LOCK	-	-	-	-
/NEW	-	-	-	-	-
/NEWPASSWORDS=...	PASSWORD	D	D		/NEWP=::
/PASSWORDS=...	-	-	-	-	-
/RETENTION=...	-	-	-	-	DEFAULT
/VSET=...	-	-	-	-	Current default
/VTF=...	VTF	D	D	-	-

¹ You also need read access to the host file.

² You also need delete access to the host file.

Description

PUT creates the specified file in StorHouse and transfers a copy of it from the host to StorHouse. If the file already exists in StorHouse, the system creates a new version of the file. The file being PUT to StorHouse always becomes the latest version of the StorHouse file.

If you specify `/VTF=DIRECT`, the command writes the file directly to the primary file set, the file set specified by `/VSET` and `/FSET`. If you do not specify `/VTF=DIRECT`, the command reserves storage for the file in the primary file set. Then, the command writes the file to the performance buffer and either allows the backup function to copy it to the primary file set (if `/VTF=NEXT`) or copies it to the primary file set immediately (if `/VTF=NOW`).

If the `/FSET` and `/VSET` modifiers specify or default to a level F file set and volume set, StorHouse does not PUT the file to the performance buffer. The file is PUT directly to the primary file set and volume set on level F, regardless of the value of the `/VTF` modifier, if specified.

StorHouse converts the file to a StorHouse format during the transfer based upon the file's host and file system types, unless you select `/ASCII` or `/BINARY`. In this case, StorHouse converts the file to a transportable format. The original copy of the file on the host is left unchanged unless you specified `/DELETE`.

Parameters

- filename Specifies the host file to be transferred to StorHouse and the name of the destination file in StorHouse. You cannot specify VRAM files in this command.
- **FORMAT:** filename
 - **FORMAT RESTRICTIONS:** Wild cards are not allowed.
 - **DEFAULT:** None; you must specify this parameter.
 - **RESTRICTIONS:** If specified, the `/HOSTNAME` modifier helps to determine how the system uses the parameter to derive the StorHouse and host file names.
 - **ACCESS REQUIREMENTS:** Write access to the StorHouse file and read access to the destination file on the host. If you specify a modifier that changes passwords or attributes, you must also have delete access to StorHouse file.
 - **HOST DEPENDENCIES:** An IBM MVS host user can PUT a dataset with a host-dependent record format if the Data Facility Data Set Services (DFDSS) utility has been installed on the host. When the file is retrieved using GET, the format of the host dataset is the same as it was when the dataset was PUT to StorHouse. For

hosts with DFDSS, the format can be ASCII, BINARY, or host-dependent; for all other IBM hosts, it is either ASCII or BINARY.

The UNIX Interactive Interface supports transportable ASCII and host-dependent formats, but it does not support transportable BINARY format.

Command Modifiers

/CONFIRM Controls whether StorHouse asks you to confirm the command.

- **FORMAT:** /CONFIRM or /NOCONFIRM
- **DEFAULT:** /NOCONFIRM

When the system requests a confirmation, enter YES (also Y or YE) or NO (also N). If you press **R** or enter any characters other than those described as a YES response, StorHouse interprets them as NO.

/REPORT Controls the generation of special text responses for the completion of significant actions. /REPORT instructs StorHouse to generate a text response. /NOREPORT instructs StorHouse not to generate a text response.

- **FORMAT:** /REPORT or /NOREPORT
- **DEFAULT:** /REPORT

Parameter Modifiers

/ASCII Causes the host interface to translate a file's data into ASCII characters in a transportable ASCII character-stream file format (FILE TYPE=1, FILE SYSTEM TYPE=65) while transferring the file to StorHouse.

- **FORMAT:** /ASCII
- **DEFAULT:** If you do not select /ASCII, the host interface translates the file into a StorHouse host-dependent format based upon the host and file system types.
- **RESTRICTIONS:** Do not specify /ASCII with a different format indicator, such as /BINARY, or with files that cannot be translated into ASCII characters.
- **HOST DEPENDENCIES:**
 - The IBM MVS Disk File Transfer and Callable Interfaces translate standard EBCDIC-character files to ASCII files.

- You must specify /ASCII or /BINARY for IBM MVS files if IBM's DFDSS utility is not installed on the host. See the "Parameters" section on page 3-195 for more information about DFDSS.

/ATF Specifies a value for the ATF (Access Time Factor) attribute for a file version. The ATF attribute indicates the importance of access time for the file. Setting an ATF value does not initiate a file transfer directly, but it may cause the file to be migrated in a subsequent migration.

- **FORMAT:** /ATF={1,2,3}

A value of 1 indicates that a short access time to the file is very important; 2 indicates that it is moderately important; 3 indicates that it is minimally important. Files are migrated off the performance buffer, beginning with files with the largest ATF values.

- **DEFAULT:** If you omit /ATF when creating a new file version, the default is the current value of the ATF system parameter.
- **ACCESS REQUIREMENTS:** Delete access to the file and ATF privilege.

/BINARY Translates the file into transportable binary bit-stream format (FILE TYPE = 1, FILE SYSTEM TYPE = 66). The host file must be in a standard host format.

- **FORMAT:** /BINARY
- **DEFAULT:** No /BINARY modifier. If you do not specify /BINARY, StorHouse translates the file into a StorHouse format based upon the host and file system types.
- **RESTRICTIONS:** /ASCII and /BINARY are mutually exclusive; that is, you cannot specify both in the same PUT command.
- **HOST DEPENDENCIES:**
 - You must specify /ASCII or /BINARY for IBM MVS files if IBM's DFDSS utility is not installed on the host.
 - UNIX hosts do not support the /BINARY parameter modifier.

/DATA Specifies an IBM MVS host-dependent parameter that controls the compression of data used from the dataset being transferred to StorHouse.

- **FORMAT:** /DATA=COMPRESS

COMPRESS specifies the use of DFDSS's data compression option. When this option is specified, data PUT on StorHouse is compressed. Decompression is automatic when you issue a GET for the file.

If you specify /ASCII or /BINARY, the system ignores /DATA.

- DEFAULT: No /DATA modifier.
- HOST DEPENDENCIES:
 - UNIX hosts do not use /DATA.
 - IBM's DFDSS utility must be installed on IBM MVS hosts for /DATA to be a valid modifier; on hosts where DFDSS is not installed, /DATA is ignored.

/DELETE Deletes the source file on the host after the file has been transferred to StorHouse and added to the directory successfully. You must have sufficient privilege and access to the file on the host to delete it, or the StorHouse access program will be unable to delete the file.

- FORMAT: /DELETE
- DEFAULT: If you omit /DELETE, the source file on the host is left intact.

/EDC Controls the generation of error detection codes (EDCs) by the host interface during transfer to StorHouse. /EDC indicates that the host interface must generate error detection codes for a file according to a specified or default algorithm. /NOEDC indicates that EDC codes should not be generated.

- FORMAT:
 - /EDC={0,1,2}
 - /EDC
 - /NOEDC
- DEFAULT: If you do not specify /EDC, the default is determined by the EDC system parameter. If the value of the EDC system parameter is TRUE, the default is /EDC. If the value of the parameter is FALSE, the default is /NOEDC. If /EDC is the default or you specify /EDC without assigning it a value, the default value is given by the EDC_TYPE system parameter.

/FSET Specifies the primary file set for the file.

If /FSET and /VSET specify or default to a level F file set and volume set, StorHouse does not PUT the file to the performance buffer. The file is PUT directly to the primary file set and volume set on level F, regardless of the value of the /VTF modifier, if specified.

- FORMAT: /FSET=fset_name

The file set name can contain 1 to 8 characters, consisting of the following ASCII characters: A-Z (uppercase), 0-9, _ (underscore), and \$ (dollar sign). StorHouse always translates file set names to uppercase characters, even if they are enclosed in quotes.

- **DEFAULT:** If you do not specify /FSET, the default is your current default file set.
- **RESTRICTIONS:** You cannot specify the performance buffer file set.

/GROUP Specifies a file access group name and, optionally, group passwords.

- **FORMAT:**
 - /GROUP=groupname
 - /GROUP=groupname::writepw
 - /GROUP=groupname::writepw:deletepw
- **FORMAT RESTRICTIONS:** Wild cards are not allowed in the group name.
- **ACCESS REQUIREMENTS:** Write access to the group. If a file parameter modifier requiring delete access is entered, you must also have delete access to the group.

You must specify the write password unless:

- The group is not protected by a write password.
- Your privilege bypasses write access password checks.
- Your default access to the group includes write access.
- **DEFAULT:**
 - If you omit /GROUP, the default is your current default group and default access rights.
 - If you specify the current default group name and do not specify a write password, the defaults for your group access rights apply.
 - If you specify a group name that is not the current default group and do not specify a write password, the write password defaults to null.
- **PRIVILEGE:** You must have SETGROUP privilege to specify any group except your default group.

/HOSTNAME The combination of the filename and /HOSTNAME specify a StorHouse file and a host file to be used in the command.

If you assign the optional `host_filespec` to /HOSTNAME, the StorHouse host interface translates or expands the `host_filespec` on the host in your current environment to produce a host file specification. The host interface uses the result to specify a file in the host only. StorHouse uses the `filename` to specify a file in StorHouse. If either file specification is not valid, StorHouse returns an error response.

/HOSTNAME always modifies a filename and can have a host file specification assigned to it.

- **FORMAT:**
 - filename /HOSTNAME
 - filename /HOSTNAME=host_filespec

The filename and host_filespec must contain 1 to 56 printable ASCII characters. At least one character must be non-blank.

StorHouse translates lowercase letters to uppercase letters and compresses multiple consecutive spaces to a single space, unless these characters are enclosed in quotes. Because lowercase letters are distinct from uppercase, lowercase letters must be enclosed in quotes if they are part of the filename or host_filespec. All special characters must be enclosed in quotes.

- **FORMAT RESTRICTIONS:** Wild cards are not allowed in the filename or host_filespec.
- **DEFAULT:** If you do not specify /HOSTNAME, StorHouse uses the filename to specify a file in StorHouse. The host interface also uses the filename as if it were a host_filespec assigned to /HOSTNAME, as described above.

If you specify /HOSTNAME without the optional host_filespec, the host interface uses the filename as if it were a host_filespec assigned to /HOSTNAME, as described above. In addition, the interface returns all or part of the translated host file specification to StorHouse to specify a file in StorHouse in place of the filename. (The host interface determines which part is returned.)

- **ACCESS REQUIREMENTS:** Write access to the StorHouse file and read access to the host file. If you specify a modifier that changes passwords or attributes, you must also have delete access to the StorHouse file.
- **HOST DEPENDENCIES:** The IBM MVS Host Interactive Interface uses standard TSO prefixing to translate host_filespec to a dataset specification. This includes the ability to avoid prefixing by enclosing host_filespec in apostrophes. In addition, the Interface translates all host_filespec values to uppercase, and, if you do not specify the StorHouse file name, the Interface passes the entire translated host dataset specification to StorHouse to be used as the file name. Table 3-5 illustrates the StorHouse – IBM MVS dataset name translation. In these examples, your TSO prefix is assumed to be U1.

Table 3-5: StorHouse – IBM MVS Dataset Name Translation

Parameter/Modifier	StorHouse File Name	IBM MVS Data Set
FA.FB /HOSTNAME=F1.F2	FA.FB	U1.F1.F2
FA.FB /HOSTNAME='F1.F2'	FA.FB	F1.F2

Table 3-5: StorHouse – IBM MVS Dataset Name Translation (continued)

Parameter/Modifier	StorHouse File Name	IBM MVS Data Set
FA.FB /HOSTNAME='U1.F1.F2'	FA.FB	U1.F1.F2
U1.F1.F2 /HOSTNAME=F1.F2	U1.F1.F2	U1.F1.F2
'F1.F2' /HOSTNAME=F1.F2	'F1.F2'	U1.F1.F2
F1.F2	F1.F2	U1.F1.F2
U1.F1.F2	U1.F1.F2	U1.U1.F1.F2
'F1.F2'	'F1.F2'	F1.F2
F1.F2. /HOSTNAME	U1.F1.F2	U1.F1.F2
U1.F1.F2 /HOSTNAME	U1.U1.F1.F2	U1.U1.F1.F2
'F1.F2' /HOSTNAME	F1.F2	F1.F2

The UNIX Host Interactive Interface translates file names using the standard UNIX rules of environment variable substitution. No other processing is performed. Any path names specified in `host_filespec`, either explicitly or as the result of variable substitution, are used as part of the file specification. Table 3-6 illustrates UNIX file name translations. The examples assume that environment variable `FNAME1` is defined as `filename1`, `fname2` is defined as `/usr/FILENAME2.ext`, and `PNAME` is defined as `/usr`.

Table 3-6: StorHouse – UNIX File Name Translation

Parameter/Modifier	StorHouse File Name	UNIX File Name
FNAME1	FNAME1	FNAME1
\$FNAME1	\$FNAME1	filename1
"filename1"	filename1	filename1
"fname2"	fname2	fname2
"\$fname2"	\$fname2	/usr/FILENAME2.ext
"/usr/FILENAME2.ext"	/usr/FILENAME2.ext	/usr/FILENAME2.ext
"PNAME/FNAME1"	PNAME/FNAME1	PNAME/FNAME1
"\$PNAME/FNAME1"	\$PNAME/FNAME1	/usr/FNAME1

Table 3-6: StorHouse – UNIX File Name Translation (continued)

Parameter/Modifier	StorHouse File Name	UNIX File Name
"PNAME/\$FNAME1"	PNAME/\$FNAME1	PNAME/filename1
"\$PNAME/\$FNAME1"	\$PNAME/\$FNAME1	/usr/filename1
FNAME1 /HOSTNAME="fname2"	FNAME1	fname2
\$FNAME1 /HOSTNAME="\$fname2"	\$FNAME1	/usr/FILENAME2.ext
FNAME1 /HOSTNAME	FNAME1	FNAME1
\$FNAME1 /HOSTNAME	filename1	filename1
"\$fname2" /HOSTNAME	/usr/FILENAME2.ext	/usr/FILENAME2.ext
"\$PNAME/\$FNAME1" /HOSTNAME	/usr/filename1	/usr/filename1

Unless you specify a path, either explicitly or as part of an environment variable specification, your current directory is used for the source.

/LIMIT Specifies a value for the LIMIT attribute for a file. A new value for /LIMIT that is lower than the current number of versions of an existing file takes effect immediately.

- **FORMAT:** /LIMIT=maximum_versions

The value of maximum_versions can range from 1 through 32768.

- **DEFAULT:** If you omit /LIMIT and the file is new, the default is the value of the LIMIT system parameter. If the file is a new version of an existing file, the default is the value of /LIMIT for the existing file.
- **ACCESS REQUIREMENTS:** Delete access to the file and DELETE privilege.

/LOCK Locks a file version under your account upon completion of the PUT command. Other accounts cannot use the locked file version until it is unlocked.

An explicitly locked file cannot be migrated or written back from the performance buffer to its primary file set.

- **FORMAT:** /LOCK
- **DEFAULT:** No /LOCK modifier.
- **PRIVILEGE:** LOCK privilege.

- /NEW** Indicates that the file must be created in StorHouse and must not be a new version of an existing file. If a file of the same name already exists in the destination file access group, the PUT will terminate with an error.
- **FORMAT:** /NEW
 - **DEFAULT:** No /NEW modifier, which creates a new version of the file if the file name already exists in StorHouse.
- /NEWPASSWORDS** Specifies all new passwords or replaces all current passwords for a file. You cannot obtain access to current passwords by specifying /NEWPASSWORDS (see /PASSWORDS below).
- **FORMAT:**
 - /NEWPASSWORDS=<:<readpw><:<writepw><:<deletepw>>>>
 - /NONEWPASSWORDS
- Specifying /NONEWPASSWORDS is equivalent to specifying /NEWPASSWORDS with null read, write, and delete passwords.
- Passwords must be null or contain 1 to 8 characters, and consist of the following ASCII characters: A-Z (uppercase), 0-9, _ (underscore), and \$ (dollar sign). StorHouse always translates passwords to uppercase characters, even if they are enclosed in quotes.
- **DEFAULT:** If you omit /NEWPASSWORDS and if the file already exists, the system retains the existing passwords, if any. If you omit the modifier and the file does not exist, the system assigns null passwords to it.
- If you specify /NEWPASSWORDS but do not specify one or more passwords, the system assigns a null password for each unspecified password.
- **ACCESS REQUIREMENTS:** You must have delete access to the file and PASSWORD privilege.
- /PASSWORDS** Specifies file access passwords to gain write and, if necessary, delete access to the file.
- **FORMAT:** /PASSWORDS=<:<writepw><:<deletepw>>
- You must specify a write password to obtain write access to the file and a delete password to obtain delete access unless:
- The file is not protected by a delete password.
 - Your privilege bypasses delete password checks.
- **DEFAULT:** If you omit /PASSWORDS, the passwords default to nulls.

/RETENTION Specifies the retention attribute (retention period) for the file.

- **FORMAT:**

Option	Description
<code>/RETENTION=DEFAULT</code>	Sets the retention period to the default value.
<code>/RETENTION=number_of_days</code>	<p>Sets the file retention period to the specified number of days. The retention period ends when the current date is beyond the file's last_modified date plus the specified retention value.</p> <p>A value of 0 indicates no retention period (same as specifying ZERO).</p> <p>Example: <code>/RETENTION=3</code></p> <p>In this example, the retention period is 3 days. The retention period for a file that was last modified at 11 p.m. on December 12 expires at 11 p.m. on December 15.</p>
<code>/RETENTION=ZERO</code>	Sets no retention period, which indicates the file may be deleted.
<code>/RETENTION=FOREVER</code>	Sets an infinite retention period, which indicates the file may never be deleted.

- **DEFAULT:** If you omit `/RETENTION` or specify `/RETENTION=DEFAULT`, StorHouse determines the default file retention attribute as follows:
 - If the file's resident file set has a retention attribute equal to `FOREVER`, `ZERO`, or a specified number of days, the file set retention attribute determines the default file retention attribute.
 - If the file's resident file set has a retention attribute of `DEFAULT`, the `RETENTION_MODE` system parameter determines the default file retention attribute. If `RETENTION_MODE` is set to `BASIC`, the default file retention is `ZERO`. If `RETENTION_MODE` is set to `STRICT`, the default file retention is `FOREVER`.
 - **RESTRICTIONS:** You may only specify a more restrictive value. For example, if the current file retention is 100 days, you may specify 200 days but not 50 days.

/VSET Specifies the primary volume set where the file's destination file set is located.

If `/VSET` and `/FSET` specify or default to a level F volume set and file set, StorHouse does not PUT the file to the performance buffer. The file is PUT directly to the primary file set and volume set on level F, regardless of the value of `/VTF`, if specified.

- **FORMAT:** `/VSET=vset_name`

- **DEFAULT:** If you do not specify the modifier, the default is your current default volume set.
- **RESTRICTIONS:** The volume set must be a primary volume set.

/VTF Specifies the file's Vulnerability Time Factor (VTF) attribute, which determines how long StorHouse can leave new extents of the file version in the performance buffer before copying them to their primary file set.

- **FORMAT:** /VTF=NEXT, /VTF=NOW, or /VTF=DIRECT

Note that NEVER is no longer a valid value for /VTF. If you specify /VTF=NEVER, the value is accepted and converted to NEXT.

If you specify /VTF=NEXT, the file is written to the performance buffer. The next time a backup occurs, the file is copied to its primary file set.

If you specify /VTF=NOW, StorHouse copies the new version from the performance buffer to its primary file set as part of the command.

Note: If you specify /VTF=NOW and the PUT *fails* after the file has been transferred from the host to the performance buffer but before the file is written back to its primary file set, StorHouse keeps the performance buffer copy and notifies you of the error. However, if the PUT is *aborted* after the file has been transferred from the host to performance buffer but before the file is written back to its primary file set, StorHouse does *not* keep the performance buffer copy.

If you specify /VTF=DIRECT, the file bypasses the performance buffer. Extents are written directly to their primary file set.

- **DEFAULT:** If you omit /VTF, the default for a new file is the value of the VTF system parameter. For an existing file, the system uses the VTF value of the latest version of the file.
- **PRIVILEGE:** Requires VTF privilege.
- **ACCESS REQUIREMENTS:** Delete access to the group and file.

Examples

The following host-dependent command examples show typical user applications of PUT.

IBM MVS Example 1. To copy the dataset USERFILE from the host to the StorHouse file, enclosing the dataset name in single quotes and specifying /HOSTNAME to prevent your TSO prefix from being added to StorHouse file name; specifying USERFILE's ATF attribute as 3 (meaning that a short access time is not an important factor for the file); specifying /EDC to indicate that error detection codes

are to be generated during file transfer to StorHouse; specifying USERFILE's write password as WRITEPW and its delete password as DELETEPW; and specifying /VTF=NEXT so that StorHouse will back up USERFILE at the next scheduled backup, enter:

```
? PUT 'USERFILE' /HOSTNAME /ATF=3 /EDC  
/PASSWORDS=:WRITEPW:DELETEPW /VTF=NEXT
```

Because you did not specify an EDC type, the system parameter EDC_TYPE determines the type of error detection code algorithm that is used.

If your account does not have ANYFILE privilege, you must specify the write password on a PUT to allow the password to be bypassed. You must have delete access to specify ATF and VTF values.

Because you omitted /FSET, /GROUP, and /VSET on the command, USERFILE is placed in your default access group. StorHouse allocates space for USERFILE in your default file set and volume set.

Because /RETENTION was omitted on the command, the default file retention attribute is DEFAULT. The exact value will be determined by the file set retention attribute or the value of the RETENTION_MODE system parameter.

IBM MVS Example 2. To copy the dataset FILE2 from the host to StorHouse, specifying a HOSTNAME of FILE1; specifying /LIMIT=10 so that StorHouse retains a maximum of 10 versions of FILE2; specifying the file's existing write password, WRITE, because you do not have ANYFILE privilege; specifying its existing delete password, DELETE, to give you delete access in order to specify /LIMIT and /NEWPASSWORDS; and specifying FILE2's new read, write, and delete passwords as NEWREAD, NEWWRITE, and NEWDEL, respectively, enter:

```
? PUT FILE2 /HOSTNAME=FILE1 /LIMIT=10 /PASSWORDS=:WRITE:DELETE  
/NEWPASSWORDS=NEWREAD:NEWWRITE:NEWDEL  
/RETENTION=FOREVER
```

Because FILE1 is not enclosed in single quotes, the name of the host dataset includes your TSO prefix. Therefore, if your prefix is USER, the dataset name is USER.FILE1. The name of the file on StorHouse is FILE2.

If the number of versions of FILE2 exceeds 10, the oldest version(s) are marked as deleted until only 10 remain.

Because you omitted /FSET, /GROUP, and /VSET on the command, FILE2 is placed in your default file access group. StorHouse allocates space for FILE2 in your default file set and volume set.

The file retention value is FOREVER, which means the file can never be deleted.

UNIX Host Example. To copy to StorHouse the contents of the host file whose name has been defined as the environment variable LOGICALNAME, specifying

`/HOSTNAME` so that the file name on StorHouse will be the same name as the actual host file name; specifying `/LIMIT=10` so that StorHouse will retain a maximum of 10 versions of `/maindir/userfile.dat`; specifying the file's existing write password, `WRITE`, because you do not have `ANYFILE` privilege; specifying its existing delete password, `DELETE`, to give you delete access in order to specify `/LIMIT` and `/NEWPASSWORDS`; and specifying the file's new read, write, and delete passwords as `READ`, `WRITE`, and `DELETE`, respectively, enter:

```
? put $logicalname /hostname /limit=10 /passwords=:write:delete
/newpasswords=newread:newwrite:newdel
```

If the host file name is `/maindir/userfile.dat`, the name of the file on StorHouse is `/maindir/userfile.dat`.

If more than 10 versions of `/maindir/userfile.dat` are PUT to StorHouse, the oldest versions are moved to the deleted file directory until only 10 remain.

Because you omitted `/FSET`, `/GROUP`, and `/VSET` on the command, `/maindir/userfile.dat` is placed in your default file access group. StorHouse allocates space for `/maindir/userfile.dat` in your default file set and volume set.

Because `/RETENTION` was omitted on the command, the default file retention attribute is `DEFAULT`. The exact value will be determined by the file set retention attribute or the value of the `RETENTION_MODE` system parameter.

RECOVER DEVICE

The RECOVER DEVICE command locates and imports volumes in an online device for which directory information was destroyed.

Format

RECOVER DEVICE did

COMMAND FORMAT SUMMARY					
COMMAND PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
RECOVER DEVICE	SYSTEM	-	-	-	-
/CONFIRM	-	-	-	-	-
/REPORT	-	-	-	-	-
did	-	-	-	-	(Required)
/LABEL	-	-	-	-	-
/BYPASS_LABEL	-	-	-	-	-
/VALIDATE_DATE	-	-	-	-	-

Description

This command initiates the recovery of a storage device for which directory information was destroyed. The storage device must be in the UP state with recovery required. Any blank volumes are normally ejected from the library.

The command locates all volumes in the specified storage device and adds them to the directory. Following a RECOVER DEVICE command, the volumes must be cataloged before their files can be accessed. (See the CATALOG VSET description.)

If you recover a volume in a library that cannot be written in that library (such as a Hitachi-1 volume in a Hitachi-2 library), StorHouse will writelock that volume. Similarly, you cannot recover an empty (free pool) volume that cannot be written in the library.

Note the following. When a tape cleaning cartridge is loaded into a drive, the drive is cleaned automatically. If you do not want to unnecessarily use one pass of your tape cleaning cartridges during library recovery, remove all tape cleaning cartridges from the library before beginning recovery operations.

StorHouse allows only one RECOVER DEVICE command to execute at a time. However, StorHouse will accept and process user requests for one device while it is recovering another.

Labeling Blank Volumes. The RECOVER DEVICE command can also be used on an operational system to label blank volumes. The advantage of using RECOVER DEVICE over the MIGRATE /BLANKS command is that a large number of blank volumes can be loaded directly into the library, thereby bypassing the exchange station.

Note the following:

Labeling blank volumes with RECOVER DEVICE is recommended only for barcode media.

- Take the library or StorHouse down.
- Load the blank volumes to be labeled into the library.
- Bring the library or StorHouse back up.
- Issue a RECOVER DEVICE /LABEL command.

It is not necessary to remove any existing volumes from the library except possibly to make room for the blank volumes. The library supports normal operations while the RECOVER DEVICE command is running.

Parameters

did Specifies the device to be recovered.

- FORMAT: {level}{unit_number}

The braces “{ }” are not part of the specification. The only valid level is L (library). Volumes in level F (fixed) devices and volumes on level S (shelf) cannot be recovered with this command. However, the administrator can recover level S volume sets by importing and cataloging them.

See Appendix B, “Data Field, Parameter, and Modifier Definitions” for examples of device identifiers.

- FORMAT RESTRICTIONS: Wild cards are not allowed.
- DEFAULT: None; you must specify this parameter.

Command Modifiers

/CONFIRM Controls whether StorHouse asks you to confirm the command.

- FORMAT: /CONFIRM or /NOCONFIRM
- DEFAULT: /CONFIRM

When the system requests a confirmation, enter YES (also Y or YE) or NO (also N). If you press R or enter any characters other than those described as a YES response, StorHouse interprets them as NO.

/REPORT Controls the generation of special text responses for the completion of significant actions. /REPORT instructs StorHouse to generate a text response. /NOREPORT instructs StorHouse not to generate a text response.

- FORMAT: /REPORT or /NOREPORT
- DEFAULT: /NOREPORT

Parameter Modifiers

/BYPASS_LABEL When used with /LABEL, /BYPASS_LABEL instructs StorHouse to label non-StorHouse volumes.

CAUTION: /BYPASS_LABEL forces StorHouse to bypass its standard label checking, which is designed to prevent overwriting non-StorHouse volumes. /BYPASS_LABEL should be used very carefully, especially with a shared library containing volumes from non-StorHouse applications.

- FORMAT: /BYPASS_LABEL
- DEFAULT: If you omit /BYPASS_LABEL, StorHouse will eject any non-StorHouse volumes from the library.
- RESTRICTIONS: /BYPASS_LABEL only applies when /LABEL is also specified.

/LABEL By default, RECOVER DEVICE ejects non-StorHouse volumes including blank volumes, from the library. If /LABEL is specified, StorHouse will label blank volumes instead. If /BYPASS_LABEL is also specified, StorHouse will also label non-StorHouse volumes instead of ejecting them.

CAUTION: /BYPASS_LABEL forces StorHouse to bypass its standard label checking, which is designed to prevent overwriting non-StorHouse volumes. /BYPASS_LABEL should be used very carefully, especially with a shared library containing volumes from non-StorHouse applications.

- FORMAT: /LABEL
- DEFAULT: If you omit /LABEL, StorHouse will eject any non-StorHouse volumes, including blank volumes, from the library.

`/VALIDATE _DATE` Sets the `VALIDATE_DATE` timestamps of the recovered volumes to the current date/time or the specified date/time. For a full description of the absolute time and delta time data fields, see Appendix B, “Data Field, Parameter, and Modifier Definitions,” in the *Command Language Reference Manual*.

- **FORMAT:**
 - `/VALIDATE_DATE`
 - `/VALIDATE_DATE=absolute_time`
 - `/VALIDATE_DATE=delta_time`
- **DEFAULT:** If you omit `/VALIDATE_DATE`, StorHouse sets the `VALIDATE_DATE` timestamps of the recovered volumes to the date/time the volumes were initialized.

Example

To import volumes in library device 1, provided the device is up and requires recovery, enter:

```
? RECOVER DEVICE L01
```

RECOVER VOLUME

RECOVER VOLUME creates replacement volumes and either erases or exports the original level L or level S physical volumes from the system. This command does not apply to level F volumes.

RECOVER VOLUME reports the extents and bytes copied. StorHouse can execute more than one RECOVER VOLUME command at a time.

Format

RECOVER VOLUME vid

COMMAND FORMAT SUMMARY					
COMMAND, PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
RECOVER VOLUME	ALLOCATION +SYSTEM	-	-	-	-
/CONFIRM	-	-	-	-	-
/DEADLINE=...	-	-	-	-	No limit
/ERASE	-	-	-	-	See text
/PREVIEW	-	-	-	-	-
/REPORT	-	-	-	-	-
/WAIT	-	-	-	-	-
vid	-	-	-	-	(Required)
/DIRECTORY=...	-	-	-	-	-
/DISABLED	-	-	-	-	/DISABLED
/LAST_ALLOCATION=...	-	-	-	-	-
/LIMIT=...	-	-	-	-	/LIMIT=1
/MAX_ERRORS=...	-	-	-	-	/NOMAX_ERRORS
/ORDER=...	-	-	-	-	/ORDER= REVERSE
/SET=...	-	-	-	-	-

Description

The RECOVER VOLUME command selects one or more physical volumes, creates replacement volumes for the selected volumes, and then uncatalogs and either erases or exports the selected volumes. This command can recover enabled or disabled

volumes, although its primary purpose is to create replacement volumes for disabled volumes.

Note Duplexing does not have to be enabled for you to use RECOVER VOLUME.

If you specify the /PREVIEW modifier, the command displays information for the selected volume(s) and for each volume that is needed to recover the selected volume(s), but it does not perform the recovery operation. This modifier allows you to identify, obtain, and load volumes that are stored off-site or on shelves before they are actually needed to implement volume recovery.

RECOVER VOLUME selects volumes that are cataloged in volume sets and meet the selection criteria you specify in the volume identification code (*vid*) parameter and command modifiers. The command can select used or empty volumes but not free pool volumes.

The *vid* parameter specifies one or more physical volumes (a side indicator is not allowed). If you want to limit the selected volumes to a particular volume set, specify the volume set in the /VSET parameter modifier. Any media type, recording type, or volume label you specify in the *vid* parameter must be compatible with the media type, recording type, and volumes in the volume set that you specify.

By default, the /DISABLED modifier causes the command to select a volume only if it has at least one side in the DISABLED state. You can select ENABLED as well as DISABLED volumes by specifying /NODISABLED, which indicates that the DISABLED state will not be used as a selection criterion. Normally, volumes are in the ENABLED state. The system administrator can place volume sides in the DISABLED or ENABLED state using the SET VOLUME command. The administrator might disable a volume that is missing, broken, or unreadable.

If you specify /LAST_ALLOCATION, RECOVER VOLUME also selects volumes that have a last allocation date and time in the range you specify.

RECOVER VOLUME processes volumes in the order specified by /ORDER. The default order is REVERSE. That is, it starts with the volume with the most recent last allocation date and continues to the volume with the oldest date of last allocation.

StorHouse limits the number of volumes that are selected to the number you specify in /LIMIT. The default for /LIMIT is 1.

The /DEADLINE modifier can limit the length of time system resources are used for the command. The modifier specifies the length of time (or a specific time) after the command is issued during which it can start to process a volume. However, once the command starts moving extents off a volume, it continues until it completes the volume, regardless of the value of /DEADLINE.

You can schedule RECOVER VOLUME using the SCHEDULE command.

Command Processing

The command creates a replacement volume for a selected volume as follows:

1. It allocates an empty replacement volume (with a different vid) in the same volume set as the volume to be recovered. If it is unable to allocate a volume in the volume set or from the free pool (because of a size limit on the volume set for example), it terminates processing of the volume with an error and proceeds to the next selected volume.
2. It sets the state of the replacement volume to CATALOGING to prevent other activities from allocating space on that volume. For two-sided volumes, the command reserves a whole physical volume but processes one side at a time. If either side of the replacement volume is in the DEACTIVATED state (because of the CYCLE attribute, for example), the command ignores the state when recovering file extents.
3. It allocates space for file sets on the replacement volume, as needed. If it is unable to allocate file set space, it returns an error for the extent it is processing and proceeds to the next file.
4. For each extent on the original volume, it writes a new copy on the replacement volume from the original (if readable) or other copy and changes the directory entry for the original extent to point to the new location. For primary files, it searches for the other copy of the extent in the directory specified by the DUPLEX_DIRECTORY system parameter. For non-primary files, the command uses the primary's extent. If it cannot find an accessible copy of an extent, the command returns an error condition for that extent and proceeds to the next file extent.
 - If an extent is in the performance buffer and has not been written back to the selected volume yet, the command writes back the extent to the replacement volume.
 - If an extent on a selected volume has been deleted but not removed, the command removes the extent from the directory without attempting to make a new copy. (This is not an error.)
 - If all space on the replacement volume is exhausted before the system is able to write all extents to the replacement volume (for example, it encounters an unusually high number of errors while writing to the replacement volume), it returns an error condition for the selected volume and proceeds to the next selected volume. (You can issue another RECOVER VOLUME command that selects the original volume, moves the remaining extents to a new replacement volume, and exports the original volume.)
5. The command sets the extent allocation times on the replacement volume to reflect the times on the original volume.

6. If the command successfully re-creates all extents from the selected volume (both sides of a two-sided volume) on the replacement volume, the selected volume will have no extents cataloged in the specified directory. The command will then uncatalog and either erase or export the selected volume from the system.
7. The command sets the state of the replacement volume to CATALOGED.

Individual extent moves may fail due to read errors, lack of available space, locked files, or other similar conditions. You must correct these problems or delete the unreadable files if you want to reissue and successfully complete a RECOVER VOLUME command for these volumes. If you cannot recover data on a volume, you can uncatalog and export the volume from the system to remove the volume and any unreadable data on it.

RECOVER VOLUME does not change the backup status of a primary file when it moves extents. It also skips any volumes that are uncataloged and informs the user with a message. However, it processes volumes that are in the UNCATALOGING state.

Parameters

vid Specifies the volume identification code (*vid*) of the primary volume to be replaced.

- **FORMAT** (the braces “{ }” are not part of the specification):
 - {media_type}{recording_type}{volume_label}
 - {media_type}{recording_type}{partial_volume_label}*
 - {media_type}{recording_type}*
 - {media_type}*
 - *
- **DEFAULT:** None; you must specify this parameter.
- **FORMAT RESTRICTIONS:** If you specify /VSET, any media type, recording type, or volume label you specified with the *vid* parameter must be compatible with the volumes in the volume set you specified with /VSET; otherwise, the system will return an error response.

Command Modifiers

/CONFIRM Controls whether StorHouse asks you to confirm the command.

- **FORMAT:** /CONFIRM or /NOCONFIRM
- **DEFAULT:** /NOCONFIRM

When the system requests a confirmation, enter YES (also Y or YE) or NO (also N). If you press **R** or enter any characters other than those described as a YES response, StorHouse interprets them as NO.

/DEADLINE Specifies the date and time before which the command can start moving extents for a selected volume. The command processes one volume at a time. If the current time is before the **/DEADLINE** time when the command selects a volume to process, the command processes the volume to completion; otherwise, the command will terminate.

- **FORMAT:** **/DEADLINE=absolute_time** or **/DEADLINE=delta_time**

See Appendix B, “Data Field, Parameter, and Modifier Definitions” for a full description of the absolute time and delta time data fields.

Absolute time specifies a calendar date and clock time. Specify absolute time as:

```
<<day><month><year>><:<hour><:<minute><:<second>>>
```

Delta time specifies an amount of time since the command was invoked. Specify delta time as:

```
D<days><:<hours><:<minutes><:<seconds>>>
```

The default for any field that is not specified is zero.

- **DEFAULT:** If you do not specify **/DEADLINE**, the command is not limited by time.

/ERASE Indicates that the command is to erase each volume instead of exporting it after moving all extents off the volume and uncataloging it. StorHouse returns an error if you specify **/ERASE** and the medium that you specified with the **vid** parameter is not erasable.

- **FORMAT:** **/ERASE**
- **DEFAULT:** If you do not specify **/ERASE**, the command exports volumes instead of erasing them.

/PREVIEW Indicates that the command will select volumes and display information but will not perform any other actions for selected volumes. With **/PREVIEW**, the command displays the volume identification code (**vid**) and volume set name for each selected volume and the **vid**, volume set name, state, location, and MEMO for each volume needed to recover the selected volume. This allows you to identify, obtain, and load volumes, which may be stored off-site or on shelves, before they are actually needed for volume recovery.

- **FORMAT:** **/PREVIEW**

- **DEFAULT:** If you omit `/PREVIEW`, the command creates replacement volumes for selected volumes.

`/REPORT` Controls the generation of special text responses for the completion of significant actions. `/REPORT` instructs StorHouse to generate a text response for each recovered volume. `/NOREPORT` instructs StorHouse not to generate a text response for each recovered volume.

- **FORMAT:** `/REPORT` or `/NOREPORT`
- **DEFAULT:** `/NOREPORT`

`/WAIT` Instructs StorHouse to wait for a locked file to be unlocked before attempting to use it in the command execution.

- **FORMAT:** `/WAIT` or `/NOWAIT`
- **DEFAULT:** `/NOWAIT`

Parameter Modifiers

`/DIRECTORY` Indicates that the command will consider for selection only volumes in the directory specified by this modifier. If necessary, the command recovers (copies) backup or archive files from their primary copies.

- **FORMAT:**
 - `/DIRECTORY=ARCHIVE`
 - `/DIRECTORY=BACKUP`
 - `/DIRECTORY=PRIMARY`
- **DEFAULT:** If you omit `/DIRECTORY`, the system does not use the directory to which the volume belongs to select volumes.
- **RESTRICTION:** `/DIRECTORY` and `/VSET` are mutually exclusive.

`/DISABLED` Determines whether the command uses the volume state `DISABLED` to select volumes. If you specify `/DISABLED`, the command selects a volume only if it has at least one side in the `DISABLED` state. If you specify `/NODISABLED`, the command does not select volumes based on the `DISABLED` state; in other words, it can select `ENABLED` as well as `DISABLED` volumes. Normally, volumes are in the `ENABLED` state.

- **FORMAT:** `/DISABLED` or `/NODISABLED`
- **DEFAULT:** `/DISABLED`

- `/LAST_ALLOCATION` Specifies the time period from which primary volumes are to be selected for replacement, based on their last allocation dates.
- **FORMAT:** `/LAST_ALLOCATION=(from_date<, to_date>)`
- The `from_date` specifies the oldest last allocation date-time, and the `to_date` specifies the most recent. The `from_date` is required. The date-times can be absolute or delta times. See Appendix B, “Data Field, Parameter, and Modifier Definitions” for a full description of the absolute time and delta time data fields.
- Absolute time* specifies a calendar date and clock time. Specify absolute time as:
- ```
<<day>-<month>-<year>><:<hour><:<minute><:<second>>>
```
- Delta time* specifies an amount of time before the command was invoked. Specify delta time as:
- ```
D<days>-><hours<:<minutes<:<seconds>>>
```
- The default for any field that is not specified in a delta time is zero.
- **DEFAULT:**
 - If you do not specify `/LAST_ALLOCATION`, the command does not select volumes by last allocation date.
 - If you specify `/LAST_ALLOCATION` but do not specify a `to_date`, the default `to_date` is the current date and time (when the command is invoked).
- `/LIMIT` Specifies the maximum number of volumes to be selected by the command.
- **FORMAT:** `/LIMIT=n`, where `n` is the maximum number of volumes to be selected by the command.
 - **DEFAULT:** `/LIMIT=1`
- `/MAX_ERRORS` Controls the maximum number of errors StorHouse allows when it finds file extents that are not accessible on a volume. If the number of errors reaches this limit, StorHouse stops processing the current volume.
- **FORMAT:** `/MAX_ERRORS=number` or `/NOMAX_ERRORS`
- `/NOMAX_ERRORS` (or `/MAX_ERRORS=0`) indicates that the number of possible errors is not limited.
- **DEFAULT:** `/NOMAX_ERRORS`
- `/ORDER` Specifies the order in which selected volumes will be recovered by the command, based on the last allocation dates of the selected volumes.

- FORMAT: /ORDER=ANY, /ORDER=NATURAL, or /ORDER=REVERSE

ANY indicates that the command will recover volumes in whatever order is quickest for selecting volumes.

NATURAL indicates that the command will recover volumes in chronological order by last allocation date, starting with the volume with the oldest last allocation date.

REVERSE indicates that the command will recover volumes in reverse chronological order by last allocation date, starting with the volume with the most recent last allocation date.

- DEFAULT: /ORDER=REVERSE

/VSET Indicates that the command will consider for selection only volumes in the volume set specified by this modifier. The /LIMIT and /LAST_ALLOCATION modifiers still apply, however.

- FORMAT: /VSET=vset_name
- FORMAT RESTRICTIONS: Wild cards are not allowed.
- DEFAULT: If you do not specify /VSET, the system does not use the volume set name to select volumes.
- RESTRICTIONS: Any media type, recording type, or volume label specified by the vid parameter must be compatible with the volumes in the volume set specified by /VSET or the system will return an error response.

/VSET and /DIRECTORY are mutually exclusive.

Examples

Note: In the following examples, every physical volume selected for recovery must be disabled and must be cataloged in a volume set before you issue the RECOVER VOLUME command.

- To recover and export no more than two disabled primary volumes (/LIMIT=2), and instruct the command to start processing a volume only if no more than four hours have elapsed since the command was invoked (/DEADLINE=D4), enter:

```
? RECOVER VOLUME /REPORT /DEADLINE=D4 * /LIMIT=2
/DIRECTORY=PRIMARY
```

Because the default for /ORDER is REVERSE, the command starts with the volume with the most current last allocation time and continues backwards in time.

- To show which backup volumes (assuming DUPLEX_DIRECTORY is set to BACKUP) will be needed to replace disabled primary volume OEB01234567, enter:

```
? RECOVER VOLUME /PREVIEW OEB01234567
```

- To replace volume OEB01234567 and export it, enter:

```
? RECOVER VOLUME OEB01234567
```

- To replace volume OEB05634888 and erase it, enter:

```
? RECOVER VOLUME OEB05634888 /ERASE
```

- To recover and export up to 10 disabled backup volumes and limit the number of possible errors to 5, enter:

```
? RECOVER VOLUME * /REPORT /DIRECTORY=BACKUP /LIMIT=10  
/MAX_ERRORS=5
```

- To recover volume OEB01234567 and erase it after moving all extents off the volume and uncataloging it, enter:

```
? RECOVER VOLUME OEB01234567 /ERASE
```


RELOCATE

The RELOCATE command copies a file version to a new location and then deletes the source copy.

Format

RELOCATE filename

COMMAND FORMAT SUMMARY					
COMMAND PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
RELOCATE	COPY	-	-	-	-
/CONFIRM	-	-	-	-	-
/REPORT	-	-	-	-	-
/TO_FSET=...	-	-	-	-	/TO_FSET= *
/TO_VSET=...	-	-	-	-	Current default
/WAIT	-	-	-	-	-
filename	-	R+W	R+W	-	(Required)
/BEFORE=...	-	-	-	-	-
/DIRECTORY=...	SYSTEM	-	-	-	See text
/FSET=...	-	-	-	-	/FSET= *
/GROUP=...	SETGROUP	R+W	-	-	Current default
/PASSWORDS=...	-	-	-	-	-
/SINCE=...	-	-	-	-	-
/UNUSED	-	-	-	-	-
/USED	-	-	-	-	-
/VERSION=...	-	-	-	-	/VERSION=0
/VOLUME=...	-	-	-	-	-
/VSET=...	-	-	-	-	/VSET= *

Description

RELOCATE creates a duplicate copy of each file specified, then deletes and removes the source copy. You must have read and write access to the file. You cannot relocate a file from one side of a volume to the other side of the same volume.

Usually, the source and destination volume sets must be different, although they must be located in the same directory. However, a file in a fixed volume set can be relocated

to a different file set in the volume set provided the source and destination are on different volumes.

The command always copies an entire file version, even if all or part of the file is in the performance buffer and has not been copied to its primary location yet. The command changes the directory to reflect the new location but does not change the file identifier, the group name, the file name, or the relative version number of the file. If you attempt to relocate a file while any of its extents are in the process of being written back, the command does not execute for that file.

You may want to work around the restrictions on source and destination volume sets, file sets, and volumes. To do so, you can relocate a file to a different volume set (such as a magnetic disk file set other than the performance buffer on level F) and then relocate it back to its original file set.

You can schedule RELOCATE using the SCHEDULE command.

Parameters

filename Specifies the name of the file to be moved.

- **FORMAT:**
 - filename
 - partial_filename*
 - *

The wild card is valid only if you specify it as the last or only character in the name.

- **DEFAULT:** None; you must specify this parameter.
- **ACCESS REQUIREMENTS:** Read and write access to the file.

Command Modifiers

/CONFIRM Controls whether StorHouse asks you to confirm the command.

- **FORMAT:** /CONFIRM or /NOCONFIRM
- **DEFAULT:** /NOCONFIRM

When the system requests a confirmation, enter YES (also Y or YE) or NO (also N). If you press R or enter any characters other than those described as a YES response, StorHouse interprets them as NO.

If multiple files are to be relocated, the system requests confirmation for each item and allows an END (also E or EN) response. END directs the system not to perform the command for the current file and subsequent files.

- /REPORT** Controls the generation of special text responses for the completion of significant actions. /REPORT instructs StorHouse to generate a text response. /NOREPORT instructs StorHouse not to generate a text response.
- FORMAT: /REPORT or /NOREPORT
 - DEFAULT: /NOREPORT
- /TO_FSET** Specifies the file set(s) to which files are to be copied. If you specify a file set name, the command copies all selected files to the specified file set. The destination file set must not be the performance buffer file set.
- If you specify a wild card, the command uses the name of the source file's file set as the name of its destination file set. The destination file set must exist already.
- See the /TO_VSET modifier description below for additional information.
- FORMAT: /TO_FSET=fset_name or /TO_FSET=*
 - FORMAT RESTRICTIONS:
 - Usually the source and destination volume sets must be different although they must be located in the same directory (primary, backup, or archive). However a file in a fixed volume set can be relocated to a different file set in the volume set provided the source and destination are on different volumes.
 - The destination volume set must already exist.
 - DEFAULT: /TO_FSET=*
- /TO_VSET** Specifies the volume set to which files are to be relocated.
- FORMAT: /TO_VSET=vset_name
 - DEFAULT: If you omit /TO_VSET, the default is your current default volume set.
 - RESTRICTIONS:
 - The source and destination volume sets must be different; however, they must be located in the same directory (primary, backup, or archive).
 - The destination volume set must already exist.
- /WAIT** Indicates that StorHouse is to wait for a locked file to be unlocked before attempting to use it in the command execution. Without /WAIT, StorHouse returns an error

status upon finding that the file is locked. If more than one file is specified, /WAIT causes the system to wait for each one to become available.

- FORMAT: /WAIT
- DEFAULT: No /WAIT modifier. StorHouse aborts the command or processing of an item if the specified file version is not available and relocates the next one.

Parameter Modifiers

Note: The /DIRECTORY, /VOLUME, and /VSET modifiers are mutually exclusive.

/BEFORE Selects file versions for relocation that have a creation date and time value that is the same as or earlier than the value you specify.

- FORMAT:
 - /BEFORE=absolute_time
 - /BEFORE=delta_time

Absolute time specifies a calendar date and clock time. Specify absolute time as:

```
<<day>-<month>-<year>><:<hour><:<minute><:<second>>>
```

If you specify /BEFORE but do not specify a day, month, or year, then the default is the current day, month, or year. If you do not specify an hour, minute, or second, then the subfield defaults to zero.

Delta time specifies the amount of time since or before an event. If you specify a delta time, the system subtracts it from the current date and time to determine the absolute date and time to use.

Specify delta time as follows (the leading D is required):

```
D<days>-<hours><:<minutes><:<seconds>>>
```

The default for any field that is not specified is zero. For a full description of the absolute time and delta time data fields, see Appendix B, “Data Field, Parameter, and Modifier Definitions.”

- DEFAULT: If you omit /BEFORE and /SINCE, the system does not select files for relocation based on creation date and time.

/DIRECTORY Specifies the directory from which files are to be selected for relocation.

- FORMAT:
 - /DIRECTORY=ARCHIVE

- /DIRECTORY=BACKUP
- /DIRECTORY=PRIMARY
- DEFAULT: If you omit /VSET, /VOLUME, and /DIRECTORY, the default is /DIRECTORY=PRIMARY; otherwise, the directory is determined by one of the three modifiers.
- RESTRICTIONS: /DIRECTORY, /VOLUME, and /VSET are mutually exclusive.
- PRIVILEGE: You must have SYSTEM privilege to specify /DIRECTORY.

/FSET Specifies the file set containing the files to be copied.

- FORMAT: /FSET=fset_name or /FSET=*
- DEFAULT: If you omit /FSET, the default is FSET=*
- RESTRICTIONS:
 - If you specify /FSET, you must also specify /VSET or /VOLUME.
 - The source and destination file sets must be in the same directory but in different volume sets.
 - If you specify the performance buffer file set name, no files will be selected for relocation.

/GROUP Specifies a file access group name and, optionally, group passwords.

- FORMAT:
 - /GROUP=groupname<:<readpw><:writepw>>
 - /GROUP=partial_groupname*
 - /GROUP=*
- DEFAULT:
 - If you omit /GROUP, the default is your current default group and default access rights.
 - If you specify the current default group name and do not specify read and write passwords, the defaults for your group access rights apply.
 - If you specify a group name that is not the current default group and do not specify read and write passwords, the read and write passwords default to null.
- PRIVILEGE: You must have SETGROUP privilege to specify any group except your default group.

- **ACCESS REQUIREMENTS:** Read and write access to the group. You must specify the read and write passwords unless:
 - The group is not protected by read and write passwords.
 - Your privilege bypasses read and write access password checks.
 - Your default access to the group includes read and write access.

/PASSWORDS Specifies the file access passwords.

- **FORMAT:**
 - `/PASSWORDS=<readpw>:writepw`
 - `/PASSWORDS=readpw`
- **ACCESS REQUIREMENTS:** Read and write access to the file. You must specify the read and write passwords unless:
 - The file is not protected by read and write passwords.
 - You have a privilege that bypasses read and write password checks.
- **DEFAULT:** If you omit `/PASSWORDS`, the passwords default to nulls.

/SINCE Selects file versions for relocation that have a creation date and time value that is the same as or later than the value you specify.

- **FORMAT:**
 - `/SINCE=absolute_time`
 - `/SINCE=delta_time`

Absolute time specifies a calendar date and clock time. Specify absolute time as:

```
<<day>-<month>-<year>><:<hour><:<minute><:<second>>>
```

If you specify `/SINCE` but do not specify a day, month, or year, then the current day, month, or year is the default. If you do not specify an hour, minute, or second, then the subfield defaults to zero.

Delta time specifies the amount of time since or before an event. If you specify a delta time, the system subtracts it from the current date and time to determine the absolute date and time to use.

Specify delta time as follows (the leading D is required):

```
D<days>-><hours<:minutes<:seconds>>>
```

The default for any field that is not specified is zero. For a full description of the absolute time and delta time data fields, see Appendix B, “Data Field, Parameter, and Modifier Definitions.”

- **DEFAULT:** If you omit `/SINCE` and `/BEFORE`, the system does not select files for relocation based on creation date and time.
- `/UNUSED` If specified, only those file versions with a last access date and time value earlier than that specified will be relocated. See the “`data_field date-time`” topic for more information about absolute and delta time specifications.
- **FORMAT:**
 - `/UNUSED=absolute_time`
 - `/UNUSED=delta_time`
 - **/DEFAULT:** If you omit both `/UNUSED` and `/USED`, the system does not select files based on last access date and time.
- `/USED` If specified, only those file versions with a last access date and time value the same as or later than that specified will be relocated. See the “`data_field date-time`” topic for more information about absolute and delta time specifications.
- **FORMAT:**
 - `/USED=absolute_time`
 - `/USED=delta_time`
 - **/DEFAULT:** If you omit both `/UNUSED` and `/USED`, the system does not select files based on last access date and time.
- `/VERSION` Specifies the relative file version(s) to be relocated.
- **FORMAT:** `/VERSION=version` or `/VERSION=*`
- The value of `version` can range from 0 through -32767 for primary files and from 0 through -65535 for archive and backup files.
- **DEFAULT:** `/VERSION=0`
- `/VOLUME` Specifies the volume identifier (`vid`) of the volume where the source file is located.
- **FORMAT:** `/VOLUME={media_type}{recording_type}{volume_label}:{side}`
 - **DEFAULT:** If you omit `/VOLUME`, the volume is not used to select source files.
 - **RESTRICTIONS:**
 - Files cannot be relocated from one side of a volume to the other side of the same volume.
 - `/VOLUME` is mutually exclusive with `/DIRECTORY` and `/VSET`.

- /VSET** Specifies the volume set that contains the source file to be relocated.
- **FORMAT:** /VSET=vset_name or /VSET=*
 - **DEFAULT:** If you omit /VSET, the default is VSET=*
 - **RESTRICTIONS:**
 - /VSET is mutually exclusive with /VOLUME and /DIRECTORY.
 - The source and destination volume sets must be different; however, they must be located in the same directory.

Examples

- To relocate version 0 (the default) of the primary copy of USERFILE to the file set PFSET2 in the volume set PVSET2, enter:

```
? RELOCATE USERFILE /TO_VSET=PVSET2 /TO_FSET=PFSET2
```

PVSET2 must not be the same as the source volume set. If USERFILE is located in the primary directory, the destination volume set (PVSET2) must also be in the primary directory. After USERFILE is copied, the source file is deleted.

- To relocate all versions of USERFILE in the primary directory to the file set PFSET1 in the volume set PVSET1, enter:

```
? RELOCATE USERFILE /TO_VSET=PVSET1 /TO_FSET=PFSET1
/VERSION=*
```

Again, the source and destination volume sets must not be the same, but they must be located in the same directory. After the files are copied, all versions of the source file are deleted.

- To relocate all versions of USERFILE in the archive directory to the file set ARCHFS1 in the volume set ARCHVS1, enter:

```
? RELOCATE USERFILE /VERSION=* /DIR=ARCHIVE
/TO_VSET=ARCHVS1 /TO_FSET=ARCHFS1
```

- To relocate all files on side A of volume OAB5612C678 to the file set FSET1 in the volume set VSET1, enter:

```
? RELOCATE * /VOLUME=OAB5612C678:A /TO_VSET=VSET1
/TO_FSET=FSET1
```

You might execute this command to keep some of the volume's files in StorHouse prior to exporting the volume.

- To relocate the primary versions of USERFILE that were created before midnight of January 31, 2002 to file set PFSET1 in volume set PVSET1, enter:

```
? RELOCATE USERFILE /VERSION=* /TO_VSET=PVSET1  
/TO_FSET=PFSET1 /BEFORE=31-JAN-2002
```

- To relocate all files on the level F volume MEAF04:A to the file set FSET1 in the volume set VSET1, enter:

```
? RELOCATE * /VOLUME=MEAF04:A /TO_VSET=VSET1  
/TO_FSET=FSET1
```

Note that the volume identification code for the level F volume specifies a side indicator (A).

- To relocate all files on the level F volume MEAF04:A to the file set FSET1 in the volume set VSET1, enter:

```
? RELOCATE * /VOLUME=MEAF04:A /TO_VSET=VSET1  
/TO_FSET=FSET1
```

Note that the volume identification code for the level F volume specifies a side indicator (A).

REMOVE ACCOUNT

The REMOVE ACCOUNT command removes a specified account from the account file.

Format

REMOVE ACCOUNT aid

COMMAND FORMAT SUMMARY					
COMMAND PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
REMOVE ACCOUNT	ACCOUNT	-	-	ANYA	-
/CONFIRM	-	-	-	-	/CONFIRM
/REPORT	-	-	-	-	-
aid	-	-	-	-	(Required)

Description

REMOVE ACCOUNT removes an account entry from the account file. Removing an account has no effect on any user who is currently signed on.

Parameters

aid This parameter specifies the account identifier (aid) of the account to be removed.

- **FORMAT:** aid
The aid must exist.
- **DEFAULT:** None; you must specify this parameter.

Command Modifiers

/CONFIRM Controls whether StorHouse asks you to confirm the command.

- **FORMAT:** /CONFIRM or /NOCONFIRM
- **DEFAULT:** /CONFIRM

When the system requests a confirmation, enter YES (also Y or YE) or NO (also N). If you press `R` or enter any characters other than those described as a YES response, StorHouse interprets them as NO.

`/REPORT` Controls the generation of special text responses for the completion of significant actions. `/REPORT` instructs StorHouse to generate a text response. `/NOREPORT` instructs StorHouse not to generate a text response.

- FORMAT: `/REPORT` or `/NOREPORT`
- DEFAULT: `/NOREPORT`

Example

To remove the account USER1 from the StorHouse account file, enter:

```
? REMOVE ACCOUNT USER1
```

If USER1 is signed on when the command is executed, the current session is not affected. However, after USER1's session is terminated, USER1 cannot be used again.

REMOVE FILE

The REMOVE FILE command removes files from the deleted file directory.

Format

REMOVE FILE

COMMAND FORMAT SUMMARY					
COMMAND PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
REMOVE FILE	SYSTEM	-	-	-	-
/BEFORE	-	-	-	-	-
/CONFIRM	-	-	-	-	-
/REPORT	-	-	-	-	-

Description

REMOVE FILE removes all deleted files from the deleted file directory. You must have SYSTEM privilege to use this command. (A file must be deleted before it can be removed. See the DELETE command description on page 3-93.)

For deleted files stored on fixed media, the command frees their storage space for use by other files. If a file on fixed media is not accessible, it is not removed.

If the DEL_FILE_PERM system parameter is TRUE, and if the file is on a removable volume (erasable or non-erasable) that is inaccessible (for example, all of its read/write devices are down), the command does not remove the file. If the file is accessible when REMOVE FILE is executed another time, it will be removed. If DEL_FILE_PERM is FALSE, the command removes deleted files even if their removable volumes (erasable or non-erasable) are inaccessible.

If the DEL_FILE_PERM system parameter is TRUE, then for each file version extent removed from a removable volume (erasable or non-erasable), the command writes deleted file labels on the volume containing the file. (The command will not write deleted file labels to files on a volume that cannot be written in the library, such as a Hitachi-1 volume in a Hitachi-2 library.) This prevents the extent from reappearing if its volume is subsequently cataloged during an import or recovery operation. If DEL_FILE_PERM is FALSE, then the command does not write deleted file labels, and the file version is simply uncataloged.

StorHouse does not write back a file to its primary file set if the file has been deleted but not removed. The system administrator should schedule the REMOVE FILE

command to run frequently enough to keep deleted files from becoming a problem in the performance buffer.

If an explicitly locked file is removed from any directory, the file lock is removed for any remaining copy or copies of the file in all directories.

REMOVE FILE removes deleted files on a volume-by-volume basis. That is, it removes all deleted files on a volume before going on to the next volume. This is the most efficient way to write deleted file labels on volumes.

You can execute more than one REMOVE FILE command at a time. You can schedule REMOVE FILE using the SCHEDULE command.

Command Modifiers

/BEFORE Selects file versions for removal with a deletion date and time that is the same as or earlier than the value you specify.

- **FORMAT:** /BEFORE
 - /BEFORE=absolute_time
 - /BEFORE=delta_time

Absolute time specifies a calendar date and clock time. Specify absolute time as:

```
<<day>>-<<month>>-<<year>>><:<hour>><:<minute>><:<second>>>
```

or

```
<<date keyword>><:<minute>><:<second>>>
```

If you specify /BEFORE but do not specify a day, month, or year, then the default is the current day, month, or year. If you do not specify an hour, minute, or second, then the subfield defaults to zero.

Delta time specifies the amount of time since or before an event. If you specify a delta time, the system subtracts it from the current date and time to determine the absolute date and time to use.

Specify delta time as follows (the leading D is required):

```
D<days>-><hours><:<minutes><:<seconds>>>
```

The default for any field that is not specified is zero. For a full description of the absolute time and delta time data fields, see Appendix B, “Data Field, Parameter, and Modifier Definitions.”

- **DEFAULT:** If you omit /BEFORE, the system does not select files for removal based on deletion date and time.

`/CONFIRM` Controls whether StorHouse asks you to confirm the command.

- `FORMAT: /CONFIRM` or `/NOCONFIRM`
- `DEFAULT: /NOCONFIRM`

Only the command, rather than each file, will be confirmed. When the system requests a confirmation, enter YES (also Y or YE) or NO (also N). If you press R or enter any characters other than those described as a YES response, StorHouse interprets them as NO.

`/REPORT` Controls the generation of special text responses for the completion of significant actions. `/REPORT` instructs StorHouse to generate a text response. `/NOREPORT` instructs StorHouse not to generate a text response.

- `FORMAT: /REPORT` or `/NOREPORT`
- `DEFAULT: /NOREPORT`

Example

To remove all deleted files from the StorHouse directory, enter:

```
? REMOVE FILE
```

You must have SYSTEM privilege to execute this command.

REMOVE GROUP

The REMOVE GROUP command removes a file access group from the directory.

Format

REMOVE GROUP groupname<:::deletepw>

COMMAND FORMAT SUMMARY					
COMMAND PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
REMOVE GROUP	GROUP	-	-	-	-
/CONFIRM	-	-	-	-	-
/REPORT	-	-	-	-	-
groupname	SETGROUP ¹	D	-	-	(Required)

¹ Not required if you specify the default group.

Description

REMOVE GROUP removes a file access group name from the system. The group to be removed must be empty of files; that is, all files must have been deleted and removed. (See the DELETE and REMOVE FILE command descriptions on pages 3-93 and 3-232, respectively.)

Parameters

groupname Specifies the access group to be removed and, optionally, a group password. The group to be removed must be empty of files. (All files have been deleted and removed.)

- **FORMAT:**
 - groupname:::deletepw
 - groupname
- **DEFAULT:** You must specify a group name. If you do not specify a password, the default password is null.
- **ACCESS REQUIREMENTS:** Delete access to the group.

You must specify the delete password unless:

- The group is not protected by a delete password.
 - Your privilege bypasses delete access password checks.
 - Your default access to the group includes delete access.
- **PRIVILEGE:** You must have SETGROUP privilege to specify any group except your default group.

Command Modifiers

/CONFIRM Controls whether StorHouse asks you to confirm the command.

- **FORMAT:** /CONFIRM or /NOCONFIRM
- **DEFAULT:** /NOCONFIRM

When the system requests a confirmation, enter YES (also Y or YE) or NO (also N). If you press **R** or enter any characters other than those described as a YES response, StorHouse interprets them as NO.

/REPORT Controls the generation of special text responses for the completion of significant actions. /REPORT instructs StorHouse to generate a text response. /NOREPORT instructs StorHouse not to generate a text response.

- **FORMAT:** /REPORT or /NOREPORT
- **DEFAULT:** /NOREPORT

Example

To remove the file access group USERGRP from the StorHouse directory, enter:

```
? REMOVE GROUP USERGRP
```

All files previously located in USERGRP have already been deleted and removed.

REMOVE SCHEDULE

The REMOVE SCHEDULE command removes a scheduled event.

Format

REMOVE SCHEDULE identifier

COMMAND FORMAT SUMMARY					
COMMAND PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
REMOVE SCHEDULE	SCHEDULE	-	-	-	-
/CONFIRM	-	-	-	-	-
/REPORT	-	-	-	-	-
identifier	-	-	-	-	(Required)
(own account)	-	-	-	-	-
(any account)	-	-	-	ANYA	-

Description

This command removes a scheduled event from the system's schedule of events.

Parameters

identifier Specifies the identifier of the event to be removed.

- **FORMAT:** identifier

An event identifier is a numeric field that StorHouse uses to uniquely identify a scheduled event. You can display the identifiers for currently scheduled events using the SHOW SCHEDULE command.

- **DEFAULT:** None; you must specify this parameter.
- **ACCESS REQUIREMENTS:** You must have ANYACCOUNT privilege to remove an event that was scheduled by an account other than yours.

Command Modifiers

/CONFIRM Controls whether StorHouse asks you to confirm the command.

- **FORMAT:** /CONFIRM or /NOCONFIRM
- **DEFAULT:** /NOCONFIRM

When the system requests a confirmation, enter YES (also Y or YE) or NO (also N). If you press R or enter any characters other than those described as a YES response, StorHouse interprets them as NO.

/REPORT Controls the generation of special text responses for the completion of significant actions. /REPORT instructs StorHouse to generate a text response. /NOREPORT instructs StorHouse not to generate a text response.

- **FORMAT:** /REPORT or /NOREPORT
- **DEFAULT:** /NOREPORT

Examples

- To remove the scheduled event whose identifier is 25628CC9, enter:

```
? REMOVE SCHEDULE 25628CC9
```

- To obtain a scheduled event's identifier, enter the SHOW SCHEDULE command:

```
? SHOW SCHEDULE
```

A list of all scheduled events is returned. The entry for event 25628CC9 in the REMOVE SCHEDULE example above might be displayed as:

```
Account=USER ID=25628CC9 Schedule=DAILY:1  
START=01-JAN-2000:19:00:00 Command=BACKUP
```

The scheduled event is the BACKUP command.

REPLICATE

The REPLICATE command copies eligible files from one StorHouse system to another.

FORMAT

REPLICATE filename

COMMAND FORMAT SUMMARY					
COMMAND, PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
REPLICATE	SYSTEM	-	-	-	-
/CONFIRM	-	-	-	-	-
/CHECK	-	-	-	-	-
/DEF_RPL_CLASS=...	-	-	-	-	-
/PREVIEW	-	-	-	-	-
/RECORD	-	-	-	-	/RECORD
/REPORT	-	-	-	-	-
/WAIT	-	-	-	-	-
filename	-	-	-	-	(required)
/FSET=...	-	-	-	-	/FSET=*
/GROUP=...	SETGROUP		-	-	/GROUP=*
/VERSION=...	-	-	-	-	/VERSION=*
/SET=...	-	-	-	-	/SET=*

Description

REPLICATE copies one or more eligible files from the primary directory on one StorHouse system to the primary directory on a destination, or target, StorHouse system. If the primary copy is unavailable on the source system, StorHouse accesses the duplex copy to create the replica.

Replication works as follows. When an application creates or modifies a replication-eligible file, StorHouse queues the same action to occur on the destination StorHouse system the next time the REPLICATE command executes on the source system and selects that file. When a file is deleted (and removed) from the source system, StorHouse queues the same action to occur on the destination StorHouse the next time the REPLICATE command executes on the source system and selects any file.

For convenience, you can schedule the REPLICATE command to run periodically.

REPLICATE uses the same account, password, and file access group on the source and target systems. The system administrator must manually create the respective accounts and volume sets on the target location. If the required groups and file sets do not already exist on the destination system, StorHouse creates them automatically. System-created file sets are noncontiguous and use the other CREATE FSET command defaults.

Files are eligible for replication when they have a pre-assigned replication class or an explicitly specified default replication class (see the /DEF_RPL_CLASS modifier on page 3-241). The replication class defines information about the target StorHouse system (for example, the system, file set, volume set, and network link names and the network device identifier).

Note the following:

- REPLICATE requires SYSTEM privilege on both the source and target systems.
- A file and its replica may have different version numbers on the source and destination systems.
- The source and destination systems do not need to run the same StorHouse release as long as both releases support replication.
- Files queued for replication are not written to the destination system in any particular order or within a set time period.
- A file is considered replicated when at least one copy resides on the destination system, including on the performance buffer.
- Replicated files retain many of their original attributes including file name, group, FID, creation date/time, and retention characteristics.
- StorHouse does not copy file and file set replication class attributes from the source system to the target location. A replica inherits the replication class attribute of its target file set.
- StorHouse can replicate any type of primary file (VRAM, sequential, or STORHOUSE).

Parameters

filename Specifies the name of the file or files to be replicated.

- **FORMAT:**

- filename
- partial_filename*
- *

StorHouse file names must contain 1 to 56 printable ASCII characters. At least one character must be non-blank. Lowercase characters are distinct from uppercase characters. File names must be unique within a file access group.

The wild card is valid only if you specify it as the last or only character in the file name.

- DEFAULT: None, you must specify this parameter.

Command Modifiers

/CHECK Tells StorHouse to ignore a file's replicated flag and check whether every specified file has already been replicated on the destination StorHouse system. Unless necessary, do not use /CHECK because it increases processing time significantly.

- FORMAT: /CHECK
- DEFAULT: If /CHECK is omitted, StorHouse checks the replicated flag of only the file queued for replication to determine whether to copy it to the target StorHouse system.

/CONFIRM Controls whether StorHouse asks you to confirm the replication of each individual file.

- FORMAT: /CONFIRM or /NOCONFIRM
- DEFAULT: /NOCONFIRM

When the system requests a confirmation, enter YES (also Y or YE) or NO (also N). If you press R or enter any characters other than those described as a YES response, StorHouse interprets them as NO.

If the command is to be performed for more than one item, the system generally requests a confirmation of each item and allows an END (entered as E, EN, or END) response. END directs the system not to perform the command for the current item and any further items.

/DEF_RPL_CLASS Specifies the name of the default replication class for files with no pre-assigned replication class. This feature enables one-time, ad hoc replication of files that otherwise would not be copied to the target StorHouse system. If the specified replication class does not exist, StorHouse generates an error message.

- FORMAT: /DEF_RPL_CLASS=replication_class_name

A replication_class_name must consist of 1 to 8 of the following ASCII characters: A-Z (uppercase), 0-9, _ (underscore), and \$ (dollar sign). StorHouse always translates replication class names to uppercase characters, even if enclosed in quotes.

- **DEFAULT:** If you omit /DEF_RPL_CLASS, StorHouse does not copy any file without a pre-assigned replication class to the target StorHouse system.

/PREVIEW Indicates that REPLICATE will display the number of files and bytes that will be replicated when the command is executed. REPLICATE/PREVIEW does not display individual file names or copy files to the target StorHouse system.

- **FORMAT:** /PREVIEW
- **DEFAULT:** If you omit /PREVIEW, the command copies selected eligible files to the target StorHouse system.

/RECORD Indicates whether the command will change the replicated flag in the primary directory of the source StorHouse system when it copies a file version to the target StorHouse system. /RECORD instructs the command to mark each replicated file version as having a current replica. /NORECORD instructs the command not to change the replicated flag.

- **FORMAT:** /RECORD or /NORECORD
- **DEFAULT:** /RECORD

/REPORT Controls the generation of special text responses for the completion of significant actions. /NOREPORT instructs StorHouse not to generate text responses.

- **FORMAT:** /REPORT or /NOREPORT
- **DEFAULT:** /NOREPORT

/WAIT Instructs StorHouse to wait for a locked file to be unlocked before attempting to use it in the command execution.

- **FORMAT:** /WAIT or /NOWAIT
- **DEFAULT:** /NOWAIT

Parameter Modifiers

/FSET Replicates eligible files in the specified primary file set (and volume set) to the target StorHouse system.

- **FORMAT:** /FSET=fset_name or /FSET=*

- **DEFAULT:** If you omit /FSET, the default is all file sets (/FSET=*).
 - **RESTRICTIONS:**
 - If you specify /FSET, you must also specify /VSET.
 - If you specify the performance buffer file set name, StorHouse does not select any files for replication.
- /GROUP** Replicates eligible files in the specified file access group to the target StorHouse system.
- **FORMAT:**
 - /GROUP=groupname
 - /GROUP=partial_groupname*
 - /GROUP=*
 - **DEFAULT:** If you omit /GROUP, the default is all groups (/GROUP=*).
 - **PRIVILEGE:** You must have SETGROUP privilege to specify any group except your default group.
- /VERSION** Specifies the relative version number of files to be replicated.
- **FORMAT:** /VERSION=version or /VERSION=*
 - **/DEFAULT:** If you omit /VERSION, the default is all versions (/VERSIONS=*).
- /VSET** Replicates eligible files in the specified primary volume set to the target StorHouse system.
- **/FORMAT:** /VSET=vset_name or /VSET=*
 - **DEFAULT:** If you omit /VSET, the default is all volume sets (/VSET=*).

Examples

- To replicate all eligible files and wait for locked files to be unlocked before attempting to use them in the command execution, enter:


```
? REPLICATE * /WAIT
```
- To check whether version 0 of the file USERFILE in the file access group ACCT already exists on the target system and then copy it there, if required, enter:


```
? REPLICATE USERFILE /CHECK /GROUP=ACCT /VERSION=0
```

- To preview the number of files and bytes that will be replicated to the target StorHouse system from volume set MAR_2004 and to generate a text response for each processed file, enter:

```
? REPLICATE * /VSET=MAR_2004 /REPORT /PREVIEW
```


RESERVE SYSTEM

The RESERVE SYSTEM command controls access to StorHouse by limiting signon to users of the account that issued the most recent RESERVE SYSTEM command.

Format

RESERVE SYSTEM <"text">

COMMAND FORMAT SUMMARY					
COMMAND, PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
RESERVE SYSTEM	OPERATOR or SYSTEM	- -	- -	- -	-
/CANCEL	-	-	-	-	-
text	-	-	-	-	Null string

Description

RESERVE SYSTEM reserves StorHouse for signons by any user of the account that issued the most recent RESERVE SYSTEM command. The optional text message is displayed to users whose signon attempts are rejected because StorHouse is reserved. /CANCEL cancels the reservation and allows users of other accounts to sign on. Any user with the proper privilege can reserve the system or cancel a reservation.

Users who signed on to StorHouse before you (an operator or a system administrator) issued RESERVE SYSTEM are not affected by the command. However, if those users sign off from StorHouse, they cannot sign on again unless they use the account that reserved the system.

If you issue a RESERVE SYSTEM command and sign off from StorHouse, the system remains reserved for users of your account.

A reservation is canceled when:

- StorHouse shuts down
- An authorized user of a different account issues a subsequent RESERVE SYSTEM command
- You issue a subsequent RESERVE SYSTEM command with /CANCEL.

Parameters

- text Provides optional message text that is sent to users who attempt to sign on when the system is reserved.
- **FORMAT:** The text must be a character string. If it contains special characters or you wish to preserve lowercase characters, enclose the text in quotes.
 - **DEFAULT:** If you do not specify any text, the default is a null string.

Command Modifiers

- `/CANCEL` Cancels the reservation of the system and allows users of other accounts to sign on.
- **FORMAT:** `/CANCEL`
 - **DEFAULT:** If you omit `/CANCEL`, the command reserves the system.

Examples

- To allow only users of the account `USER` to sign on to `StorHouse`, enter:

```
? RESERVE SYSTEM "StorHouse is reserved for the USER account"
```

The message "StorHouse is reserved for the `USER` account" is returned to any user who attempts to sign on with another account. `StorHouse` does not terminate the sessions of users who are already signed on to `StorHouse` when the command is executed. However, if they sign off, they can sign on again only under the account `USER` until the reserve is canceled.
- To cancel the system reservation and allow other account users to sign on, enter:

```
? RESERVE SYSTEM /CANCEL
```

This command does not affect the sessions of users who are already signed on.

RESTORE DIRECTORY

The RESTORE DIRECTORY command reads directory extraction files containing directory information for files from one or more source StorHouse systems and restores, or inserts, the information into a destination StorHouse system. The source StorHouse system can be any StorHouse system. The destination StorHouse system is the system where the RESTORE DIRECTORY command is issued.

To restore directory information from multiple source StorHouse systems, you must run the RESTORE DIRECTORY command once for each source StorHouse system. SGI recommends that you develop volume set, file set, custom volume label, file access group, and file naming conventions that will prevent name conflicts if you extract directory information from multiple source StorHouse systems and restore it into one destination StorHouse system.

You can restore full or incremental directory extraction files on a destination StorHouse system running either the same or a later release of StorHouse software as the source system. For example, if you extract files from a StorHouse system running StorHouse Release 5.1, you can only restore those files on a StorHouse system running StorHouse Release 5.1 or higher.

RESTORE DIRECTORY is used with the EXTRACT DIRECTORY command for disaster recovery. Before using these commands, you need to plan your strategy for disaster recovery. For information on how to do this, ask your SGI customer support representative for a copy of *StorHouse Recovery Strategies*, publication number 900117.

Format

RESTORE DIRECTORY

COMMAND FORMAT SUMMARY					
COMMAND, PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
RESTORE DIRECTORY	SYSTEM	-	-	-	-
/CONFIRM	-	-	-	-	/CONFIRM
/GROUP=...	-	-	-	-	Current default
/ID=...	-	-	-	-	Most recent ID
/PREVIEW	-	-	-	-	-
/REPORT	-	-	-	-	-

Description

The RESTORE DIRECTORY command reads *directory extraction files* that were created when the EXTRACT DIRECTORY command was executed on one or more source StorHouse systems, and inserts the information into the directories on a destination StorHouse system. For files on level L, the command restores directory information for volume sets, file sets, removable volumes, file access groups, file versions, file extents, and accounts. For files on level F, the command restores only file set and volume set information.

Note: To avoid conflicts with existing directory information and to ensure that deleted, erased, and uncataloged information does not remain in the restored directories, restore extractions on a destination StorHouse system that has no pre-existing directory information from the source StorHouse system(s). The only source StorHouse directory information allowed on a destination StorHouse system is the volume set, file set, volumes, group, and files containing the extraction files.

RESTORE DIRECTORY assigns volume sets to an appropriate library device and free pool volumes to an appropriate free pool. If you want to assign a volume set to a specific library device before invoking RESTORE DIRECTORY, create the volume set with the appropriate media on the desired library device before you restore the extraction.

There is no difference between restoring a full or an incremental directory extraction. (See the EXTRACT DIRECTORY command on page 3-118 for information about full and incremental extractions.) The extraction control file for either type of extraction identifies groups, volume sets, file sets, volumes, accounts, and all of the extraction VTOC files for volumes that were in the system and in the cataloged state at the time of the extraction. RESTORE DIRECTORY attempts to restore the information in all of the VTOC files identified by the control file. An extraction control file from an incremental extraction simply refers to VTOC files from previous extractions for volumes that did not change since the previous extraction.

If the extracted information indicates that a volume was in any state other than cataloged, the RESTORE DIRECTORY command restores the volume information and places the volume in the uncataloged state. It does not restore extent or other information that may have been on the volume.

If you specify the /PREVIEW modifier, the command verifies that the volume sets, file sets, volumes, file access groups, and accounts identified in the control file can be restored and displays the names of these items, but it does not actually restore them. It also verifies that the required VTOC files exist.

RESTORE DIRECTORY will default to the most recent identifier in the extraction control file names in the file access group specified by /GROUP, unless you specify a different identifier using the /ID modifier. An identifier is included in the StorHouse file name of each extraction file created by the EXTRACT DIRECTORY command. In both extraction control and extraction VTOC file names, *yyyymmddhhmmss* is the identifier (based on the date and time of the extraction):

SM.DIR.EXTR.CTRL.yyyymmddhhmmss
SM.DIR.EXTR.VTOC.yyyymmddhhmmss.mmr.label.side

RESTORE DIRECTORY assigns restored volumes to shelf storage. If RESTORE DIRECTORY is restoring a volume with a volume identification code that already exists in the destination StorHouse system, the command skips the volume and does not attempt to restore file extent information from the volume.

If RESTORE DIRECTORY skips a volume set because it already exists in the system, the command normally returns an error status indicating that the restore was incomplete (error status XTEXTRINCOMP). However, the command does not return this error if the only volume set skipped was the one containing the extraction files.

You can invoke the RESTORE DIRECTORY command interactively or schedule it to run using the SCHEDULE command.

Note: Before you use StorHouse to access restored data, use SET VOLUME /DISABLE to disable all volumes that are not accessible (in other words, all broken, missing, or unreadable volumes). If you want to use duplex capabilities to access backup or archive copies in place of missing primary copies, use SET FILE /RELINK to relink primaries with their backup or archive copies (if they exist) and enable duplexing for disabled volumes. Before you use StorHouse to write new data, you should ensure that all inaccessible free pool volumes are assigned to a free pool that will not be used, or you should export them from StorHouse. You can use SET VSET to change the free pool where a volume set allocates empty volumes, and you can use MOVE VOLUME and MOVE VSET to physically move volumes to a desired device location.

Command Modifiers

/CONFIRM Controls whether StorHouse asks you to confirm the command. The confirmation request includes the extraction identifier that the command will use.

- **FORMAT:** /CONFIRM or /NOCONFIRM
- **DEFAULT:** /CONFIRM

When the system requests a confirmation, enter YES (also Y or YE) or NO (also N). If you press R or enter any characters other than those described as a YES response, StorHouse interprets them as NO.

/GROUP Specifies the file access group name for the group from which the command will obtain extraction files.

- **FORMAT:** /GROUP=groupname
- **FORMAT RESTRICTIONS:** Wild cards are not allowed in the group name.
- **DEFAULT:** If you omit /GROUP, the default is your current default group.

- PRIVILEGE: SETGROUP is required to specify any group except your default group.
- /ID** Specifies the extraction identifier of the directory extraction to restore. RESTORE DIRECTORY uses the extraction control file that includes the specified identifier in its file name to identify and restore the directory extraction information.
- FORMAT: /ID=yyyymmddhhmmss
where yyyy is the year, mm is the month (01 to 12), dd is the day of the month, hh is the hour of the day, mm is the minute, and ss is the second the extraction was started.
 - DEFAULT: If /ID is omitted, the command searches for the control file with the most recent identifier in the group specified by /GROUP.
- /REPORT** Controls the generation of special text responses for the completion of significant actions. /REPORT instructs StorHouse to generate a text response for each action and to include summary statistics at the end. /NOREPORT instructs StorHouse not to generate summary statistics or a text response for each action.
- FORMAT: /REPORT or /NOREPORT
 - DEFAULT: /NOREPORT
- /PREVIEW** Indicates that the command will verify that the required VTOC files exist and that the volume sets, file sets, volumes, and file access groups identified in the control file can be restored, but it does not actually restore them. If /REPORT is specified, the command also displays the names of these items and summary statistics.
- FORMAT: /PREVIEW
 - DEFAULT: If this modifier is omitted, the command restores directory information.

Examples

- To initiate a restore of the most recent directory extraction created in file access group STHDIR1, and request text responses, enter:

```
RESTORE DIRECTORY /GROUP=STHDIR1 /REPORT
```
- To initiate a preview of a restore of a directory extraction created in file access group STHDIR1 at 12AM, January 1, 2000, and to request text responses, enter:

```
RESTORE DIRECTORY /PREVIEW /ID=20000101000000  
/GROUP=STHDIR1 /REPORT
```

RETIRE VOLUME

The RETIRE VOLUME command deactivates one or more level L or level S volumes, moves all file extents off the specified volumes, uncatalogs the volumes, and either exports or erases the volumes. You can use RETIRE VOLUME to permanently remove damaged or degraded volumes from the system or to erase and reuse erasable volumes for efficient storage management. The command can process more than one volume at a time.

For virtual volumes (for example, devices such as Copan), SGI recommends using the RELOCATE command rather than the RETIRE VOLUME command. If RETIRE VOLUME is used for virtual volumes, execute it with the /ERASE modifier.

Format

RETIRE VOLUME vid

COMMAND FORMAT SUMMARY					
COMMAND PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
RETIRE VOLUME	ALLOCATION +SYSTEM	-	-	-	-
/CONFIRM	-	-	-	-	-
/DEADLINE=...	-	-	-	-	No start-time limit
/ERASE	-	-	-	-	See text
/REPORT	-	-	-	-	-
/WAIT	-	-	-	-	-
vid	-	-	-	-	(Required)
/LIMIT=...	-	-	-	-	/LIMIT=1
/MAX_ERRORS=...	-	-	-	-	/NOMAX_ERRORS
/MOUNTS=...	-	-	-	-	/MOUNTS
/VSET=...	-	-	-	-	-

Description

RETIRE VOLUME deactivates a specified volume, copies all non-deleted, accessible file extents from the volume (both sides of a two-sided volume) to one or more other volumes in the same volume set, changes the directory entries to point to the new copies, uncatalogs the volume, and either exports or erases the volume. If deleted files exist on the volume, RETIRE VOLUME will not copy them but instead will remove them; then, it will proceed to uncatalog and export the volume. If you specify the

`/ERASE` command modifier, the command erases the volume to make it an empty volume in its volume set, instead of exporting it. However, StorHouse returns an error if you specify `/ERASE` and indicate a non-erasable media in the volume identification code (`vid`) parameter.

`RETIRE VOLUME` selects volumes based on the volume or volumes that you specified in the `vid` parameter (which must include a media type), the `/MOUNTS` parameter modifier value, and the `RETIRE` state (StorHouse places a volume in the `RETIRE` state if the media is damaged). The command moves extents off one selected volume at a time.

For each extent on the original volume, it writes a new copy on the replacement volume(s) from the original (if readable) or other copy and changes the directory entry for the original extent to point to the new location. If a volume to be retired contains an unreadable primary file extent, then `RETIRE VOLUME` looks for a readable copy in the directory specified by the `DUPLEX_DIRECTORY` system parameter (either `ARCHIVE` or `BACKUP`). If the volume to be retired contains unreadable backup or archive file extents, the command uses the primary file extent. As in previous releases, if there is no accessible extent copy, then the command returns an error condition for that extent and proceeds to process the next extent.

- If an extent is in the performance buffer and has not been written back to the selected volume yet, the command writes back the extent to the replacement volume.
- If an extent on a selected volume has been deleted but not removed, the command removes the extent from the directory without attempting to make a new copy. (This is not an error.)

The `/MOUNTS` modifier selects volumes based on media mount limits and volume mount counts. StorHouse maintains a *mount limit* (recommended by the media manufacturer and initially set at installation) for each media type and recording type combination configured in the system. The mount limit indicates the average number of mounts that a volume of the media can undergo before the risk of encountering unrecoverable errors due to media degradation exceeds a safe threshold. The mount limit is non-zero only for media that degrade with use, such as DLT magnetic tape (media type `TB`). Optical disk media have a mount limit of 0, which indicates that the limit does not apply.

StorHouse also maintains a *mount count* for each volume side in the system. The mount count indicates the number of times a volume side has been used (mounted and dismounted). It can be used to determine the likelihood of encountering read errors due to media degradation for media that degrade with use. By default, `RETIRE VOLUME` selects a volume only if the mount limit for the media that you specified in the `vid` parameter is non-zero and the volume's mount count is greater than or equal to either the media's mount limit or a value you specified with `/MOUNTS`. If you want to retire a volume *regardless* of the mount count value, the mount limit value, and the `RETIRE` state, specify `/NOMOUNTS`. (To retire an optical volume, you must specify `/NOMOUNTS` because the mount limit is zero for all optical media.)

Note If you export and then import a volume, the mount count for the volume side(s) will reset to zero.

There are two features that help prevent unnecessary retirement of volumes. First, you cannot specify a wild card in the `vid` parameter if you specify `/NOMOUNTS`. Second, StorHouse limits the number of volumes that are selected to the number indicated by `/LIMIT`. The default for `/LIMIT` is 1. You must specify `/LIMIT` with a value greater than 1 to retire more than one volume.

You can limit the volumes to be selected by the command to a specific volume set by specifying the volume set name with the `/VSET` parameter modifier. The limitations of the `vid` parameter, the `/LIMIT` modifier, and the `/MOUNTS` modifier still apply when you use `/VSET`. Any media type, recording type, or volume label you specify in the `vid` parameter must be compatible with the media type, recording type, and volumes in the volume set that you specified with `/VSET`; otherwise, StorHouse will return an error response.

The `/DEADLINE` modifier can limit the length of time system resources are used for moving extents. The modifier specifies the length of time after the command is issued during which volume copies can be started. However, once StorHouse starts moving extents off a volume, it continues until it completes the volume, regardless of the value of `/DEADLINE`.

StorHouse selects a destination volume or volumes based on the availability of storage space in the appropriate file sets. StorHouse always deactivates the source volume (both sides of a two-sided volume) before attempting to allocate new space for the extents. This prevents the command from moving extents from one side to the other on a two-sided volume. StorHouse allocates space for the extents in appropriate file sets as necessary. StorHouse attempts to keep extents from the same file version on the same volume side.

If one or more extents have space allocated on the source volume, are on the performance buffer, and have not yet been written back to the source volume, the command allocates space for these extents on another volume and frees the space on the source volume.

If StorHouse cannot move all of the extents off the source volume, it returns an appropriate error condition to the user, but it moves as many of the extents as it can. Individual extent moves may fail due to read errors, lack of available space, locked files, or other similar conditions. If a volume to be retired is already uncataloged, the command skips the volume and notifies the user with a message.

You can schedule `RETIRE VOLUME` using the `SCHEDULE` command.

You can execute more than one `RETIRE VOLUME` command at a time.

Parameters

vid Specifies the volume identifier (vid) of the physical volume containing the extents to be moved.

- **FORMAT:**
 - {media_type}{recording_type}{volume_label}
 - {media_type}{recording_type}{partial_volume_label}*
 - {media_type}{recording_type}*
 - {media_type}*

The braces “{ }” are not part of the specification. You must specify at least the media type when using a wild card.

- **FORMAT RESTRICTIONS:**
 - If you specify /NOMOUNTS, you cannot use a wild card; that is, you must specify a complete volume identification code.
 - If you specify /VSET, any media type, recording type, or volume label you specified with the vid parameter must be compatible with the volumes in the volume set you specified with /VSET; otherwise, the system will return an error response.
- **DEFAULT:** None; you must specify this parameter.

Command Modifiers

/CONFIRM Controls whether StorHouse asks you to confirm the command.

- **FORMAT:** /CONFIRM or /NOCONFIRM
- **DEFAULT:** /NOCONFIRM

When the system requests a confirmation, enter YES (also Y or YE) or NO (also N). If you press R or enter any characters other than those described as a YES response, StorHouse interprets them as NO.

/DEADLINE Specifies the date and time after the RETIRE VOLUME command is invoked when the command can start moving extents off selected volumes. The command processes one volume at a time. When the /DEADLINE time expires, the command will continue to move extents off the volume it is currently processing until it completes that volume. Then, it will terminate rather than start any additional selected volumes.

Note: The /DEADLINE parameter modifier replaces the /BEFORE parameter modifier. StorHouse accepts both names for this modifier.

- **FORMAT:** /DEADLINE=absolute_time or /DEADLINE=delta_time

Absolute time specifies a calendar date and clock time. See Appendix B, “Data Field, Parameter, and Modifier Definitions” for a full description of the absolute time and delta time data fields.

Specify absolute time as:

```
<<day>-<month>-<year>><:<hour><:<minute><:<second>>>
```

If you specify /DEADLINE but do not specify a day, month or year, the default is the current day, month, or year. If you do not specify an hour, minute or second, the subfield defaults to zero.

Delta time specifies the amount of time since the command was invoked. If you specify a delta time, the system adds it to the date and time the command was invoked to determine the absolute date and time to use.

Specify delta time as (the leading D is required):

```
D<days-><hours<:minutes<:seconds>>>
```

The default for any field that is not specified is zero.

- **DEFAULT:** If you do not specify /DEADLINE, the command is not limited by time.

/ERASE Indicates that the command is to erase each volume instead of exporting it after moving all extents off the volume and uncataloging it. StorHouse returns an error if you specify /ERASE and the medium specified by the vid parameter is not erasable.

- **FORMAT:** /ERASE
- **DEFAULT:** If you do not specify /ERASE, the command exports volumes instead of erasing them.

/REPORT Controls the generation of special text responses for the completion of significant actions. /REPORT instructs StorHouse to generate a text response for each retired volume. /NOREPORT instructs StorHouse not to generate a text response for each retired volume.

- **FORMAT:** /REPORT or /NOREPORT
- **DEFAULT:** /NOREPORT

/WAIT Instructs StorHouse to wait for a locked file to be unlocked before attempting to use it in the command execution.

- **FORMAT:** /WAIT or /NOWAIT
- **DEFAULT:** /NOWAIT

Parameter Modifiers

/LIMIT Specifies the maximum number of volumes to be selected by the command.

- **FORMAT:** /LIMIT=*n*, where *n* is the maximum number of volumes to be selected by the command.
- **DEFAULT:** /LIMIT=1

/MAX_ERRORS Controls the maximum number of errors StorHouse allows when it finds file extents that are not accessible on a volume. If the number of errors reaches this limit, StorHouse stops processing the current volume.

- **FORMAT:** /MAX_ERRORS=*number* or /NOMAX_ERRORS

/NOMAX_ERRORS (or /MAX_ERRORS=0) indicates that the number of possible errors is not limited.
- **DEFAULT:** /NOMAX_ERRORS

/MOUNTS Controls whether volumes with a mount count greater than or equal to the number indicated by /MOUNTS are to be selected by the command.

- **FORMAT:** /MOUNTS=*n*, /MOUNTS, or /NOMOUNTS

If you specify /MOUNTS=*n*, *n* indicates the minimum count value for volumes to be selected. Normally, *n* should be set to the maximum recommended number of mounts (or *passes*) for the media type and recording type selected by the *vid* parameter.

If you specify /MOUNTS without *n*, *n* defaults to a value set at installation for the media type and recording type specified by the *vid* parameter.

/NOMOUNTS indicates that the command will not select volumes based on their mount counts.

- **DEFAULT:** /MOUNTS. In other words, the command selects volumes whose mount count is greater than or equal to the mount limit(s) configured for the media type and recording type(s) specified by the *vid* parameter.
- **RESTRICTIONS:** If you specify /NOMOUNTS, you cannot use a wild card in the *vid* parameter (that is, you must specify a complete *vid*).

- /VSET** Indicates that the command will consider for selection only volumes in the volume set specified by this modifier. The **/LIMIT** and **/MOUNTS** modifiers still apply, however.
- **FORMAT:** `/VSET=vset_name`
 - **FORMAT RESTRICTIONS:** Wild cards are not allowed.
 - **DEFAULT:** If you do not specify **/VSET**, the system does not use the volume set name to select volumes.
 - **RESTRICTIONS:** Any media type, recording type, or volume label specified by the `vid` parameter must be compatible with the volumes in the volume set specified by **/VSET** or the system will return an error response.

Examples

- To retire and export no more than two volumes (**/LIMIT=2**) from a pool of volumes that have a media type of TB (DLT magnetic tape) and any recording type, and to instruct the command to start processing a volume only if no more than four hours have elapsed since the command was invoked (**/DEADLINE=D4**), enter:

```
? RETIRE VOLUME /DEADLINE=D4 TB* /LIMIT=2
```

For each volume selected, the system deactivates the volume, moves all file extents off the volume to one or more other volumes in the same volume set, changes the directory entries, uncatalogs the volume, and exports it. By default, you instructed the command to search for volumes that have a mount count greater than or equal to the system-configured mount limit for the volume's media type. This use of **RETIRE VOLUME** can be helpful to retire and discard used volumes in a pool of volumes (of that media and recording type) within a limited time frame so as not to tie up system resources.

- To retire volume `OEB01234567` and erase it, regardless of its mount count and to limit the number of possible errors to 5, enter:

```
? RETIRE VOLUME /ERASE OEB01234567 /NOMOUNTS  
/MAX_ERRORS=5
```

The command first deactivates both sides of volume `OEB01234567`, moves all file extents off both sides of the volume to one or more other volumes in the same volume set, changes the directory entries, uncatalogs both sides of the volume, and erases both sides of the volume. This use of **RETIRE VOLUME** can be helpful when most of the space on a volume is deleted file space and the remaining active file extents must be moved to another volume before this volume can be erased and reused.

RUN

The RUN command executes procedures that have been installed on StorHouse, usually by SGI Customer Support.

Format

RUN procedure <parameter <...>>

COMMAND FORMAT SUMMARY					
COMMAND PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
RUN	SYSTEM or OPERATOR or SERVICE	-	-	-	-
procedure	-	-	-	-	(Required)
parameter	-	-	-	-	-

Description

RUN executes procedures that have been installed on StorHouse, usually by SGI Customer Support. Typical procedures include those that generate and retrieve StorHouse reports.

StorHouse/RM metadata backup and restore is implemented through procedures accessed with the RUN command. See the *StorHouse/RM Administration Guide* for more information on the backup procedure. For other procedures and the parameters that you must specify on this command, see your SGI customer support representative.

You can schedule RUN using the SCHEDULE command.

Parameters

Note: You must enter any parameter that contains mixed-case values in quotes.

- procedure Specifies the name of the procedure you want to run.
- FORMAT: procedure
 - DEFAULT: None; you must specify this parameter.

parameter Specifies the parameter(s) for the procedure you want to run.

- FORMAT: parameter
- DEFAULT: None.

Examples

Contact your SGI customer support representative for examples on running procedures.

SCHEDULE

The SCHEDULE command schedules a command to be run using StorHouse as the host.

Format

SCHEDULE ! command_line

Note: You must place all SCHEDULE command modifiers after SCHEDULE and before the exclamation point (!). If they appear after the exclamation point, the system assumes that they are part of the command_line parameter.

For IBM MVS hosts, you must use a solid vertical bar (|) in place of an exclamation point.

Note: If you include a comment after the command that you are scheduling (as part of command_line), that comment will appear in the user log. You can locate command_exec records for specific scheduled commands in the user log by searching for the comment. Be sure to use a comment that is not likely to appear in other commands.

COMMAND FORMAT SUMMARY					
COMMAND, PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
SCHEDULE	SCHEDULE	-	-	-	-
/ACCOUNT=...	-	-	-	-	Your own account
/DISABLED	-	-	-	-	-
/EMAIL	-	-	-	-	-
/PASSWORD=...	-	-	-	-	-
/ON_ERROR	-	-	-	-	-
/REPORT	-	-	-	-	-
/SCHEDULE=...	-	-	-	-	-
/START=...	-	-	-	-	-
/TEST_EMAIL	-	-	-	-	-
command_line	-	-	-	-	(Required)

Description

SCHEDULE starts a session that emulates a user of the StorHouse operating system and executes the specified command. The system can reschedule the command as

directed by /SCHEDULE. The system places all general responses, start notification messages, and completion status messages for the command being executed in the user log (if the LOG_COMMAND system parameter is set to TRUE).

The command will be started immediately unless you specify /START. /START specifies the start time either as an absolute time or a delta time. /SCHEDULE specifies a schedule for executing the command, where the time specified in /START (or the current time if you do not specify /START) is taken as the starting point for a SCHEDULE command. You can specify additional /START times and /SCHEDULE parameter modifiers on additional SCHEDULE commands.

You do not need to specify a password unless you are scheduling a command using an account other than your own account and you do not have ANYACCOUNT privilege.

You cannot use /CONFIRM in a scheduled command (in `command_line`). If /CONFIRM is the default, the system adds /NOCONFIRM to the command line.

Parameters

`command_line` Specifies the command to be scheduled.

- FORMAT:

The command must be one of the following:

- ARCHIVE
- BACKUP
- CATALOG VSET
- CHECKPOINT
- CREATE BACKUP
- DOWN DEVICE
- ERASE VOLUME
- ERASE VSET
- EXPORT
- EXTRACT DIRECTORY
- IMPORT
- INITIALIZE DEVICE
- MESSAGE
- MIGRATE
- MOVE VOLUME
- MOVE VSET
- NEWLOG
- PURGE
- RECOVER VOLUME
- RELOCATE
- REPLICATE
- REMOVE FILE
- RESTORE DIRECTORY
- RETIRE VOLUME
- RUN
- SERVICE
- SET DEVICE
- SET FILE
- SET SYSTEM
- SET VOLUME
- SHUTDOWN
- STAGE
- UNCATALOG VOLUME
- UNCATALOG VSET
- UP DEVICE
- VALIDATE VOLUME

You must precede the command line with an exclamation point (or a vertical bar if you are entering the command from an IBM MVS host).

Place all SCHEDULE command modifiers *before* the command being scheduled.

- **DEFAULT:** None; you must specify this parameter.

Command Modifiers

- /ACCOUNT** Specifies an account for which an event is to be scheduled.
- **FORMAT:** /ACCOUNT=aid
 - **DEFAULT:** If you omit /ACCOUNT, the command is scheduled under your own account.
 - **ACCESS REQUIREMENTS:** If you specify an aid other than your own, then you must also specify the account password using /PASSWORD or you must have ANYACCOUNT privilege.
- /DISABLED** Instructs StorHouse to set the scheduled command in the disabled state. (StorHouse does not execute scheduled commands while they are disabled.) The command remains scheduled until enabled or removed. (This modifier is primarily for use by SGI customer support personnel.)
- **FORMAT:** /DISABLED
 - **DEFAULT:** Not disabled
- /EMAIL** Specifies the email address that will receive the output of the session that executes the scheduled command.
- **FORMAT:** /EMAIL=email_address
 - **DEFAULT:** If you omit /EMAIL, StorHouse will not email the session output.
- /ON_ERROR** Specifies to email the output of the session that executes the scheduled command only if command execution failed.
- **FORMAT:** /ON_ERROR
 - **DEFAULT:** If you omit /ON_ERROR and specify an email address, StorHouse emails the session output if the command execution succeeded or failed.
 - **RESTRICTIONS:** If you specify /ON_ERROR, you must also specify /EMAIL with an email address.
- /PASSWORD** Specifies the password for the account specified by /ACCOUNT.
- **FORMAT:** /PASSWORD=password
 - **DEFAULT:** If you omit /PASSWORD, the password defaults to nulls.

- **RESTRICTIONS:** If you specify /ACCOUNT and do not have ANYACCOUNT privilege, you must specify /PASSWORD. If you have ANYACCOUNT privilege, the system ignores the value of /PASSWORD.

/REPORT Reports the scheduling of the event (in other words, the completion of the SCHEDULE command). It does not report the completion of the event.

/REPORT instructs StorHouse to generate a text response. /NOREPORT instructs StorHouse not to generate a text response.

- **FORMAT:** /REPORT or /NOREPORT
- **DEFAULT:** /NOREPORT

/SCHEDULE Specifies how often the command is to be executed. After each run, the system reschedules the command to run again according to the specified schedule.

Note: The start time for a scheduled event is specified separately (using /START) or is defaulted to the current or next possible time.

- **FORMAT:** /SCHEDULE=frequency<:n>

The frequency specifies the basic rate, such as daily or monthly, at which the event will occur. You can use the optional multiplier to set the actual frequency to an integer multiple of the basic rate.

The frequency must be one of the following:

- HOURLY (60 minutes)
- DAILY (24 hours)
- WEEKDAYS (Monday, Tuesday, Wednesday, Thursday and Friday only)
- SUNDAY, MONDAY, TUESDAY, WEDNESDAY, THURSDAY, FRIDAY, and SATURDAY (command will run on the specified day)
- NOSUNDAY, NOMONDAY, NOTUESDAY, NOWEDNESDAY, NOTHURSDAY, NOFRIDAY, and NOSATURDAY (command will run every day except the indicated day)
- SATSUN (Saturday and Sunday only)
- MONTHLY (28 to 31 days depending on actual month)
- MINUTE (command will run every minute)
- EOM (end of month–last day)

If an event is scheduled to occur MONTHLY on day n of a month, StorHouse reschedules the event to occur on the nth day of every month, unless n is 29, 30, or 31. If a MONTHLY event is started on the 29th, 30th, or 31st of a month, StorHouse reschedules the event to occur on the last day of any month that does not have the desired day.

You can specify the multiplier n only for the following frequencies:

- MINUTE, where n must be 1 through 9999.
- HOURLY, where n must be 1 through 9999
- DAILY, where n must be 1 through 366
- MONTHLY, where n must be 1 through 12.

For example, MONTHLY:3 schedules an event to occur every 3 months (quarterly). DAILY: 7 indicates weekly, that is, once every 7 days.

- DEFAULT: If you omit /SCHEDULE, the system executes the command_line once at the time specified by /START or its default.

/START Specifies an absolute or delta time at which the command is to start.

- FORMAT: /START=absolute_time or /START=delta_time

For a full description of the absolute time and delta time data fields, see Appendix B, “Data Field, Parameter, and Modifier Definitions.”

Absolute time specifies a calendar date and clock time. Specify absolute time as:

```
<<day>-<month>-<year>><:<hour><:<minute><:<second>>>
```

If you do not specify a day, month, or year, the current day, month, or year, respectively, is the default. If you do not specify an hour, minute, or second, the subfield defaults to zero.

Delta time specifies the amount of time since or before an event. Specify delta time as follows (the leading D is required):

```
D<days>-<hours><:<minutes><:<seconds>>>
```

The default for any field that is not specified is zero.

- DEFAULT: If you omit /START, the start time defaults to the current time.

/TEST_EMAIL Specifies to send a test email message to the email address indicated by the /EMAIL modifier before scheduling the command. StorHouse can only detect some email address problems, and when it does, the software reports the problem and does not schedule the command. However, because StorHouse cannot detect email delivery problems, it schedules the command regardless if the test email is delivered successfully. For email delivery problems, you must remove and reschedule the command when you do not receive the test email.

- FORMAT: /TEST_EMAIL
- DEFAULT: If you omit /TEST_EMAIL, the system will not send a test email.
- RESTRICTIONS: If you specify /TEST_EMAIL, you must also specify an email address with /EMAIL.

Examples

The following host-dependent examples show typical user applications of SCHEDULE.

IBM MVS Example 1

To schedule a weekly backup (DAILY:7 indicates once every 7 days), where the backup will be performed under your account (because you are scheduling it) and the first backup will be performed at 3 a.m. on January 1, 2000, enter:

```
? SCHEDULE /START=01-JAN-2000:03:00:00 /SCHEDULE=DAILY:7 |BACKUP
```

Weekly backups will continue until this SCHEDULE command is canceled using the REMOVE SCHEDULE command.

Note: The event being scheduled must be the last item in the command statement.

IBM MVS Example 2

To schedule the NEWLOG command to be executed daily under the account SYSOPER, whose password is OPER, where new administrative and user logs will be opened and the old ones will be closed each day beginning at 8 a.m. on January 1, 2000, enter:

```
? SCHEDULE /START=01-JAN-2000:08:00:00 /SCHEDULE=DAILY  
/ACCOUNT=SYSOPER /PASSWORD=OPER |NEWLOG
```

NEWLOG will be executed daily until this SCHEDULE command is canceled using the REMOVE SCHEDULE command.

Note: The event being scheduled must be the last item in the command statement.

IBM MVS Example 3

To schedule the MOVE VOLUME request to be executed immediately, enter:

```
? SCHEDULE |MOVE VOLUME OAD2173C123 S00
```

SCHEDULE does not conflict with operator requests generated by the MOVE VOLUME command.

UNIX Example 1

To schedule a weekly backup (DAILY:7 indicates once every 7 days), where the backup will be performed under your account (because you are scheduling it) and the first backup will be performed at 3 a.m. on January 1, 2000, enter:

```
? SCHEDULE /START=01-JAN-2000:03:00:00 /SCHEDULE=DAILY:7 !BACKUP
```

Weekly backups will continue until this SCHEDULE command is canceled using the REMOVE SCHEDULE command.

Note: The event being scheduled must be the last item in the command statement.

UNIX Example 2

To schedule the NEWLOG command to be executed daily under the account SYSOPER, whose password is OPER, and where new administrative and user logs will be opened and the old ones will be closed each day beginning at 8 a.m. on January 1, 2000, enter:

```
? SCHEDULE /START=01-JAN-2000:08:00:00 /SCHEDULE=DAILY  
/ACCOUNT=SYSOPER /PASSWORD=OPER !NEWLOG
```

NEWLOG will be executed daily until this SCHEDULE command is canceled using the REMOVE SCHEDULE command.

Note: The event being scheduled must be the last item in the command statement.

UNIX Example 3

To schedule the MOVE VOLUME request to be executed immediately, enter:

```
? SCHEDULE !MOVE VOLUME OAD2173C123 S00
```

SCHEDULE does not conflict with operator requests generated by the MOVE VOLUME command.

SERVICE

The SERVICE command sends a message to a specified StorHouse process.

Format

SERVICE process_name<,...> <!directive>

Note: For IBM MVS hosts, you must use a solid vertical bar (|) in place of an exclamation point.

COMMAND FORMAT SUMMARY					
COMMAND, PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
SERVICE	SERVICE	-	-	-	-
process_name	-	-	-	-	(Required)
directive	-	-	-	-	Null string

Description

This command is typically reserved for system testing and field service.

The characters in the directive parameter are passed to the specified process as entered. They do not undergo case translation.

You can schedule SERVICE using the SCHEDULE command.

Parameters

process_name Specifies the StorHouse process or processes to which the directive is to be sent.

- **FORMAT:** process_name<,...>

The process_name is a character string that identifies a StorHouse process. You can specify a list of process names, separated by commas.

- **DEFAULT:** None; you must specify a process_name.

directive Varies depending upon the process name.

- **FORMAT:** !directive

The directive is a character string that provides control information for the specified process or processes.

- **DEFAULT:** If you omit directive, the default is a null string.
- **HOST DEPENDENCIES:** You must specify a vertical bar (|) in place of the exclamation point on IBM MVS hosts.

SET ACCOUNT

The SET ACCOUNT command sets or changes parameters for an account.

Format

SET ACCOUNT <aid>

COMMAND FORMAT SUMMARY					
COMMAND, PARAMETER, OR MODIFIER	REQUIRED COMMAND PRIVILEGE	REQUIRED GROUP ACCESS	REQUIRED FILE ACCESS	MINIMUM ACCOUNT ACCESS	DEFAULT
SET ACCOUNT	ACCOUNT	-	-	-	-
/CONFIRM	-	-	-	-	-
/REPORT	-	-	-	-	-
aid	-	-	-	-	Your own account
(own account)	-	-	-	-	Default
(any account)	-	-	-	ANYA	-
/DISABLED	-	-	-	ANYA	-
/ENABLED	-	-	-	ANYA	-
/FSET=...	-	-	-	-	-
/GROUP=...	SETGROUP	-	-	-	-
/NEWPASSWORD	PASSWORD	-	-	-	-
/PRIVILEGE=...	-	-	-	ANYA	-
/RIGHTS=...	-	ANYG	-	-	-
/VSET=...	-	-	-	-	-

Description

SET ACCOUNT establishes or changes an account's parameters. Changes become effective the *next* time you sign on to the account.

Parameters

- aid Specifies the account identification code (aid) of the account to be changed.
- **FORMAT:** aid
 - **DEFAULT:** If you omit the aid, the system uses your own account.

- **ACCESS REQUIREMENTS:** You must have ANYACCOUNT privilege if you specify an account other than your own.

Command Modifiers

/CONFIRM Controls whether StorHouse asks you to confirm the command.

- **FORMAT:** /CONFIRM or /NOCONFIRM
- **DEFAULT:** /NOCONFIRM

When the system requests a confirmation, enter YES (also Y or YE) or NO (also N). If you press R or enter any characters other than those described as a YES response, StorHouse interprets them as NO.

/REPORT Controls the generation of special text responses for the completion of significant actions. /REPORT instructs StorHouse to generate a text response. /NOREPORT instructs StorHouse not to generate a text response.

- **FORMAT:** /REPORT or /NOREPORT
- **DEFAULT:** /NOREPORT

Parameter Modifiers

/DISABLED Prevents users from signing on to the specified account. Users can modify account attributes (such as privileges) and can obtain or modify account statistics while the account is disabled. Disabling an account has no effect on any user who is currently signed on.

- **FORMAT:** /DISABLED
- **DEFAULT:** No /DISABLED modifier.

/ENABLED Allows users to sign on to the account.

- **FORMAT:** /ENABLED
- **DEFAULT:** No /ENABLED modifier.

- /FSET** Specifies the account's default file set name at signon. The specified file set must exist. /NOFSET indicates that the account will not have a default file set at signon.
- **FORMAT:** /FSET=fset_name or /NOFSET
 - **DEFAULT:** If you omit /FSET, the default is the account's current default file set name.
- /GROUP** Specifies the account's default file access group at signon. The specified group must exist. /NOGROUP indicates that the account will not have a default group at signon.
- **FORMAT:** /GROUP=groupname or /NOGROUP
 - **DEFAULT:** If you omit /GROUP, the default is the account's current default access group.
 - **RESTRICTIONS:** If you specify /GROUP, you must also specify /RIGHTS.
 - **PRIVILEGE:** /GROUP requires SETGROUP privilege even for your default group.
- /NEWPASSWORD** Sets a new password for an account. The system asks you to enter and verify a new password (password).
- If the account is your own account, and you do not have ANYACCOUNT or ALLPRIVILEGE privilege, the system asks you to enter the old password before requesting a new one. If the account is not your own account, the system does not request the old password first, but it does require you to have ANYACCOUNT or ALLPRIVILEGE privilege.
- No passwords are echoed to your terminal.
- **FORMAT:** /NEWPASSWORD
- An account password can be null or contain 1 to 32 characters, consisting of the following ASCII characters: A-Z (uppercase), 0-9, _ (underscore), and \$ (dollar sign). StorHouse always translates passwords to uppercase characters, even if they are enclosed in quotes.
- **DEFAULT:** If you omit /NEWPASSWORD, the system ignores the modifier and retains the existing password.
 - **PRIVILEGE:** /NEWPASSWORD requires PASSWORD privilege.

/PRIVILEGE Specifies one or more privileges to be granted or denied to an account. A privilege is granted to the account if you specify the privilege. A privilege is denied if the letters NO precede it.

- **FORMAT:**
 - /PRIVILEGE=<NO>privilege
 - /PRIVILEGE=(<NO>privilege<,...>)

You must enclose a string of two or more privileges in parentheses.

If you specify EVERY, StorHouse grants all privileges except ALLPRIVILEGE. If you specify NOEVERY, StorHouse denies the account all privileges except ALLPRIVILEGE.

If you grant and deny the same privilege in the same command, either specifically or with EVERY, the last occurrence of the privilege in the command takes precedence. That is, if you first grant a privilege and then deny it in the same command, the account is denied that privilege.

- **DEFAULT:** If you omit /PRIVILEGE, the system does not change the existing privileges.
- If you specified /PRIVILEGE and did not specify one or more privileges (explicitly or with <NO>EVERY), the existing values of the unspecified privileges do not change.
- **ACCESS REQUIREMENTS:** ANYACCOUNT access.

/RIGHTS Specifies the account's default access rights (access types) to the default group.

- **FORMAT:**
 - /RIGHTS=<<R><:<W><:<D>>>>
 - /NORIGHTS

The letters to the right of the equal sign indicate the type of default group access being assigned to the account:

- R specifies read access.
- W specifies write access.
- D specifies delete access.
- A null in place of an R, W, or D assigns no default access for that type of access.
- **DEFAULT:** If you omit /RIGHTS, the system does not change the existing rights.

- **RESTRICTIONS:** /RIGHTS is valid only if you specify a default group in this command or you have specified it previously (in other words, the account already has a default group). If you specified /GROUP in this command, you must also specify /RIGHTS.

/VSET Specifies the account's default volume set name at signon. The specified volume set must exist. /NOVSET indicates that the account will not have a default volume set at signon.

- **FORMAT:** /VSET=vset_name or /NOVSET
- **DEFAULT:** If you omit /VSET, the default is to keep the current default volume set name for the account.

Examples

- To change USER's default file access group, volume set, and file set to NEWGROUP, NEWVSET, and NEWFSET, give USER read, write, and delete access to files located in its default file access group (NEWGROUP), prevent users from signing on to the account USER until it is /ENABLED, give USER the privileges ANYFILE, COPY, GET, PUT, and SETGROUP, and take away ANYGROUP privilege, enter:

```
? SET ACCOUNT USER /GROUP=NEWGROUP /RIGHTS=R:W:D
/DISABLED /PRIVILEGE=(ANYFILE,NOANYGROUP,COPY,GET,PUT,
SETGROUP) /VSET=NEWVSET /FSET=NEWFSET
```

USER can access files within any accessible group without specifying file passwords, if any. USER can copy files within StorHouse, GET files and open VRAM files for reading, and PUT files and open VRAM files for writing and updating.

- To enable the account USER, which allows users to sign on to it, enter:
- ```
? SET ACCOUNT USER /ENABLED
```
- To change USER's default access rights to the files in its default access group to read access, enter:

```
? SET ACCOUNT USER /RIGHTS=R
```

Now, if the group is protected by write and delete passwords, USER must include /GROUP with write and/or delete passwords in commands to obtain write and/or delete access to files in the group.

- In the preceding example, USER already had a default file access group. If USER does not have a default group, to establish USERGRP as USER's default file access group, enter:

```
? SET ACCOUNT USER /RIGHTS=R /GROUP=USERGRP
```

- To change the USER's account password, enter:

```
? SET ACCOUNT USER /NEWPASSWORD
```

The system responds:

```
Enter new password or RETURN for none?
Reenter new password or RETURN for none?
```

Enter the new password in response to each prompt. The passwords you enter do not display on the screen.

# SET DEVICE

SET DEVICE changes attributes that affect StorHouse devices.

## Format

SET DEVICE did

| COMMAND FORMAT SUMMARY          |                            |                       |                      |                        |            |
|---------------------------------|----------------------------|-----------------------|----------------------|------------------------|------------|
| COMMAND, PARAMETER, OR MODIFIER | REQUIRED COMMAND PRIVILEGE | REQUIRED GROUP ACCESS | REQUIRED FILE ACCESS | MINIMUM ACCOUNT ACCESS | DEFAULT    |
| SET DEVICE                      | OPERATOR                   | -                     | -                    | -                      | -          |
| /CONFIRM                        | -                          | -                     | -                    | -                      | -          |
| /REPORT                         | -                          | -                     | -                    | -                      | -          |
| did                             | -                          | -                     | -                    | -                      | (Required) |
| /ACCESSIBLE                     | -                          | -                     | -                    | -                      | -          |
| /CLEANED                        | -                          | -                     | -                    | -                      | -          |
| /NEEDS_CLEANING                 | -                          | -                     | -                    | -                      | -          |
| /READ_ONLY                      | -                          | -                     | -                    | -                      | -          |
| /SIZE=...                       | SYSTEM                     | -                     | -                    | -                      | -          |
| /UNWRITELOCK                    | -                          | -                     | -                    | -                      | -          |
| /WRITELOCK                      | -                          | -                     | -                    | -                      | -          |

## Description

SET DEVICE changes attributes that affect StorHouse devices. You can invoke the SET DEVICE command interactively or schedule it to run periodically or at a specific time using the SCHEDULE command.

## Parameters

- did Specifies the device identification code for the drive affected by the command.
- **FORMAT:** Specifies the device identification code (did) for the drive, which must include a device level of F or L and a device unit number. For library device

drives, the did must also include a subunit type of D and a subunit number (the braces “{ }” are not part of the specification):

```
F{unit_number}
L{unit_number}D{subunit_number}
```

- DEFAULT: None; you must specify this parameter.

## Command Modifiers

**/CONFIRM** Controls whether StorHouse asks you to confirm the command.

- FORMAT: /CONFIRM or /NOCONFIRM
- DEFAULT: /NOCONFIRM

When the system requests a confirmation, enter YES (also Y or YE) or NO (also N). If you press R or enter any characters other than those described as a YES response, StorHouse interprets them as NO.

**/REPORT** Controls the generation of special text responses for the completion of significant actions. /REPORT instructs StorHouse to generate a text response. /NOREPORT instructs StorHouse not to generate a text response.

- FORMAT: /REPORT or /NOREPORT
- DEFAULT: /NOREPORT

## Parameter Modifiers

**/ACCESSIBLE** Clears the INACCESSIBLE mode of all drives in the library device. The did parameter must specify the device identification code of the level L library that contains the inaccessible drives.

- FORMAT: /ACCESSIBLE
- DEFAULT: If you omit /ACCESSIBLE, the INACCESSIBLE mode of the drive is not affected.
- ACCESS REQUIREMENTS: No additional privileges are required to use this modifier.

**/CLEANED** Changes the mode of a level L drive. /CLEANED instructs StorHouse to clear the needs\_cleaning mode for the drive. StorHouse generally handles level L drive cleaning automatically. However, if StorHouse was unable to clean a drive, it sets the drive to NEEDS\_CLEANING mode, and stops using the drive. If the drive is then



cleaned manually, you can use this command to inform StorHouse that the drive has been cleaned, and that StorHouse can resume using it.

- **FORMAT:** /CLEANED
- **DEFAULT:** If you omit this modifier, the NEEDS\_CLEANING mode of the drive is unaffected.
- **RESTRICTIONS:** /CLEANED and /NEEDS\_CLEANING are mutually exclusive.

**/NEEDS\_CLEANING** Changes the mode of a level L drive. /NEEDS\_CLEANING instructs StorHouse to set the NEEDS\_CLEANING mode for the drive. StorHouse generally handles level L drive cleaning automatically. However, this command can be used to inform StorHouse that the drive needs cleaning. StorHouse will stop using the drive, and clean it if possible.

- **FORMAT:** /NEEDS\_CLEANING
- **DEFAULT:** If you omit this modifier, the NEEDS\_CLEANING mode of the drive is unaffected.
- **RESTRICTIONS:** /CLEANED and /NEEDS\_CLEANING are mutually exclusive.

**/READ\_ONLY** Changes the mode of a level F or level L drive. /READ\_ONLY instructs StorHouse to set the drive to read-only mode. /NOREAD\_ONLY instructs StorHouse to clear read-only mode for the specified drive.

- **FORMAT:** /READ\_ONLY or /NOREAD\_ONLY
- **DEFAULT:** If you omit this modifier, the read-only mode of the drive is unaffected.

**/SIZE** Specifies the size of fixed content object-based disk or filesystem level F drives.

- **FORMAT:** /SIZE=number\_of\_bytes

The value for number\_of\_bytes can range up to 4294967295 (do not use commas in the specification). Use K to indicate 1,000-byte units, M to indicate 1,000,000-byte units, and G to indicate 1,000,000,000-byte units. If you do not specify K, M, or G, the number defaults to 1-byte units.

- **DEFAULT:** If you omit /SIZE, the size attribute is not changed.
- **RESTRICTIONS:** /SIZE can only be used to specify the size of fixed content object-based disk and filesystem level F drives. It is not valid for other types of level F devices or for level L devices.

The value of /SIZE may not be less than the amount of space currently allocated on the device.

**/UNWRITELOCK** Changes the mode of a level F drive. /UNWRITELOCK instructs StorHouse to clear the writelocked mode for the drive.

- **FORMAT:** /UNWRITELOCK
- **DEFAULT:** If you omit this modifier, the WRITELOCKED mode of the drive is unaffected.
- **RESTRICTIONS:** /WRITELOCK and /UNWRITELOCK are mutually exclusive.

**/WRITELOCK** Changes the mode of a level F drive. /WRITELOCK instructs StorHouse to set the WRITELOCKED mode for the drive.

- **FORMAT:** /WRITELOCK
- **DEFAULT:** If you omit this modifier, the WRITELOCKED mode of the drive is unaffected.
- **RESTRICTIONS:** /WRITELOCK and /UNWRITELOCK are mutually exclusive.

## Examples

- To set drive L00D01 to read-only mode, enter:  
? SET DEVICE L00D01 /READ\_ONLY
- To clear read-only mode for drive L00D01, enter:  
? SET DEVICE L00D01 /NOREAD\_ONLY
- To set drive F00 to read-only mode, enter:  
? SET DEVICE F00 /READ\_ONLY
- To set the size of F00 to 500 GB, enter:  
? SET DEVICE F00 /SIZE=500G
- To change device L00D01 from INACCESSIBLE to ACCESSIBLE, enter:  
? SET DEVICE L00D01 /ACCESSIBLE

# SET FILE

The SET FILE command changes file attributes and passwords.

## Format

SET FILE filename

| COMMAND FORMAT SUMMARY          |                            |                       |                      |                        |                 |
|---------------------------------|----------------------------|-----------------------|----------------------|------------------------|-----------------|
| COMMAND, PARAMETER, OR MODIFIER | REQUIRED COMMAND PRIVILEGE | REQUIRED GROUP ACCESS | REQUIRED FILE ACCESS | MINIMUM ACCOUNT ACCESS | DEFAULT         |
| SET FILE                        | FILE                       | -                     | -                    | -                      | -               |
| /REPORT                         | -                          | -                     | -                    | -                      | -               |
| /WAIT                           | -                          | -                     | -                    | -                      | -               |
| filename                        | -                          | D                     | D                    | -                      | (Required)      |
| /ARCHIVED                       | -                          | -                     | -                    | -                      | -               |
| /ATF=...                        | ATF                        | -                     | -                    | -                      | -               |
| /BACKUP                         | -                          | -                     | -                    | -                      | -               |
| /FSET=...                       | -                          | -                     | -                    | -                      | -               |
| /GROUP=...                      | SETGROUP                   | D                     | -                    | -                      | Current default |
| /LIMIT=...                      | DELETE                     | -                     | -                    | -                      | -               |
| /NEWPASSWORDS=...               | PASSWORD                   | -                     | -                    | -                      | -               |
| /NOREPLICATED                   | SYSTEM                     | -                     | -                    | -                      | -               |
| /PASSWORDS=...                  | -                          | -                     | -                    | -                      | -               |
| /RELINK=...                     | -                          | -                     | -                    | -                      | -               |
| /RETENTION=...                  | -                          | -                     | -                    | -                      | -               |
| /RPL_CLASS=...                  | -                          | -                     | -                    | -                      | -               |
| /VERSION=...                    | -                          | -                     | -                    | -                      | See text        |
| /VOLUME=...                     | -                          | -                     | -                    | -                      | -               |
| /VSET=...                       | -                          | -                     | -                    | -                      | -               |
| /VTF=...                        | VTF                        | -                     | -                    | -                      | -               |

## Description

SET FILE allows you to change attributes and passwords for a file in the primary directory. It does not change directory information in the archive or backup directory.

SET FILE changes to version-dependent attributes only apply to the specified (or default) file version. They have no effect on other versions of the file.

The version-dependent attributes are:

- ARCHIVED
- ATF
- BACKUP (file version is a candidate for being archived or backed up)
- BACKED UP (users cannot directly set this attribute)
- NOREPLICATED
- RETENTION
- RPL\_CLASS
- VTF

You can schedule SET FILE using the SCHEDULE command.

## Parameters

**filename** Specifies the file to be modified.

- **FORMAT:**
  - filename
  - partial\_filename\*
  - \*

The wild card is valid only if you specify it as the last or only character in the name.

- **DEFAULT:** None; you must specify this parameter.
- **ACCESS REQUIREMENTS:** Delete access to the file and group.

## Command Modifiers

**/REPORT** Controls the generation of special text responses for the completion of significant actions. /REPORT instructs StorHouse to generate a text response. /NOREPORT instructs StorHouse not to generate a text response.

- **FORMAT:** /REPORT or /NOREPORT
- **DEFAULT:** /NOREPORT

**/WAIT** Instructs StorHouse to wait for a locked file to be unlocked before attempting to use it in the command execution.

- **FORMAT:** /WAIT OR /NOWAIT
- **DEFAULT:** /NOWAIT

## Parameter Modifiers

- /ARCHIVED** Changes the archived status of a file version.
- The command changes the status in the primary directory, but does not verify that the status is consistent with the archive directory.
- ARCHIVED is a version-dependent attribute and has no effect on other versions of the file. The /VERSION modifier determines which version is changed.
- **FORMAT:** /ARCHIVED or /NOARCHIVED
  - **DEFAULT:** If you omit /ARCHIVED, the archived status of the file version is not changed.
- /ATF** Specifies a value for the ATF (Access Time Factor) attribute for a file version. The ATF attribute indicates the importance of access time for the file. Setting an ATF value does not initiate a file transfer directly, but it may cause the file to be moved in a subsequent migration.
- ATF is a version-dependent attribute and has no effect on other versions of the file. The /VERSION modifier determines which version is changed.
- **FORMAT:** /ATF={1,2,3}
- A value of 1 indicates that a short access time for the file is very important; 2 indicates that access time is moderately important; 3 indicates that it is minimally important. Files are migrated off the performance buffer based on their ATF attributes, beginning with files with the largest ATF values.
- **DEFAULT:** If you omit /ATF, the value of the file's ATF attribute is not changed.
  - **ACCESS REQUIREMENTS:** Delete access to the file.
- /BACKUP** Controls whether the file version is to be selected for backup by the CREATE BACKUP and ARCHIVE commands. /BACKUP indicates that the version is to be backed up. /NOBACKUP indicates that the version is not to be backed up.
- BACKUP is a version-dependent attribute and has no effect on other versions of the file. The value of the /VERSION modifier determines which version is changed.
- **FORMAT:** /BACKUP or /NOBACKUP
  - **DEFAULT:** If you omit /BACKUP, the BACKUP attribute of the file version is not changed.
- /FSET** Indicates that the command will only select files in the specified file set (and volume set).

- **FORMAT:** /FSET=fset\_name
- **FORMAT RESTRICTIONS:** Wild cards are not allowed.
- **DEFAULT:** If you omit /FSET, StorHouse does not use the file set name to select files.
- **RESTRICTIONS:** If you specify /FSET, you must also specify /VSET.

**/GROUP** Specifies the file's access group name and, optionally, the group's delete password.

- **FORMAT:**
  - /GROUP=groupname<:::deletepw>
  - /GROUP=partial\_groupname\*
  - /GROUP=\*
- **ACCESS REQUIREMENTS:** Delete access to the group.

You must specify the delete password unless:

- The group is not protected by a delete password.
- Your privilege bypasses delete access password checks.
- Your default access to the group includes delete access.

Passwords are not allowed if the group name contains a wild card.

- **DEFAULT:** If you omit /GROUP, the default is your current default group.
- **PRIVILEGE:** You must have SETGROUP privilege to specify any group except your default group.

**/LIMIT** Specifies a value for the LIMIT attribute for a primary file. A new value for /LIMIT that is less than the existing value takes effect the next time a PUT or PURGE of the file is executed. However, SHOW FILE displays the new LIMIT attribute for all file versions immediately.

LIMIT applies to primary files only. (The limit for archive and backup copies of files is always 65536.)

- **FORMAT:** /LIMIT=maximum\_versions

The value of maximum\_versions can range from 1 through 32768.

- **DEFAULT:** If you omit /LIMIT, the default is to keep the current value of /LIMIT for the file.

**/NEWPASSWORDS** Replaces all current passwords for a file. Note that you cannot gain access to passwords by specifying /NEWPASSWORDS (see /PASSWORDS).

- **FORMAT:**
  - /NEWPASSWORDS=<readpw>:<writepw>:<deletepw>
  - /NEWPASSWORDS=<readpw>:<writepw>
  - /NEWPASSWORDS=readpw
  - /NONEWPASSWORDS

Specifying /NONEWPASSWORDS is equivalent to specifying /NEWPASSWORDS with null read, write, and delete passwords.

A file password can be null or contain 1 to 8 characters, consisting of the following ASCII characters: A-Z (uppercase), 0-9, \_ (underscore), and \$ (dollar sign). StorHouse always translates passwords to uppercase characters, even if they are enclosed in quotes.

- **DEFAULT:** If you omit /NEWPASSWORDS, the system retains the existing passwords, if any.

If you specify /NEWPASSWORDS but do not specify one or more passwords, the system assigns a null password for each unspecified password.

- **ACCESS REQUIREMENTS:** Delete access to the file and PASSWORD privilege.

**/NOREPLICATED** Clears the replicated status of a file version.

/NOREPLICATED is a version-dependent attribute. The /VERSION modifier determines which version is changed.

- **FORMAT:** /NOREPLICATED
- **DEFAULT:** If you omit /NOREPLICATED, the replicated status of the file version is not changed.

**PRIVILEGE:** You need SYSTEM privilege to specify /REPLICATE.

**/PASSWORDS** Specifies the file's delete password.

- **FORMAT:** /PASSWORDS=::deletepw

You must specify a delete password unless:

- The file is not protected by a delete password.
- Your privilege bypasses delete password checks.
- **DEFAULT:** If you omit /PASSWORDS, the password defaults to nulls.

**/RELINK** Indicates that the command will check the BACKUP or ARCHIVE directory for copies of the specified file versions and mark the file versions in the PRIMARY directory as backed up or archived where appropriate. If the backup (or archive) copy

exists, the command will mark its primary as backed up (or archived) even if the primary has the NOBACKUP attribute.

The value of the /VERSION modifier determines which version or versions are checked.

- **FORMAT:** /RELINK=ARCHIVE, /RELINK=BACKUP, or /RELINK
- **DEFAULT:**
  - If you omit /RELINK, the system does not attempt to relink primary with backup and archive copies of file versions.
  - If you specify /RELINK without giving a directory, the command uses the directory specified by the DUPLEX\_DIRECTORY system parameter.
- **RESTRICTION:** /RELINK is mutually exclusive with /NOARCHIVE.

**/RETENTION** Specifies the retention attribute (retention period) for the file.

RETENTION is a version-dependent attribute. The /VERSION modifier determines which version is changed.

- **FORMAT:**

| Option                    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| /RETENTION=DEFAULT        | Sets the retention period of the specified file version to the default value.                                                                                                                                                                                                                                                                                                                                                                                                                  |
| /RETENTION=number_of_days | Sets the retention period of the specified file version to the specified number of days. The retention period ends when the current date is beyond the file's last_modified date plus the specified retention value.<br>A value of 0 indicates no retention period (same as specifying ZERO).<br>Example: /RETENTION=3<br>In this example, the retention period is 3 days. The retention period for a file that was last modified at 11 p.m. on December 12 expires at 11 p.m. on December 15. |
| /RETENTION=ZERO           | Sets no retention period, which indicates the specified file version may be deleted.                                                                                                                                                                                                                                                                                                                                                                                                           |
| /RETENTION=FOREVER        | Sets an infinite retention period, which indicates the specified file version may never be deleted.                                                                                                                                                                                                                                                                                                                                                                                            |



- **DEFAULT:** If you omit `/RETENTION`, there is no change to the file's current retention value.
- **RESTRICTIONS:** You may only specify a more restrictive value. For example, if the current file retention is 100 days, you may specify 200 days but not 50 days.

`/RPL_CLASS` Specifies the name of the replication class for the specified file. A replication class is a collection of replication-related information (system, file set, volume set, and link names and network device identification) about the target StorHouse system. `/NORPL_CLASS` specifies that the file has no replication class. If the specified replication class does not exist, StorHouse generates a warning message.

`/RPL_CLASS` is a version-dependent attribute. The `/VERSION` modifier defines the version that is assigned the specified replication class.

- **FORMAT:** `/RPL_CLASS=replication_class_name` or `/NORPL_CLASS`  
  
A `replication_class_name` can consist of from 1 to 8 of the following ASCII characters: A-Z, 0-9, `_`, and `$`. StorHouse always forces replication class names to uppercase, even when enclosed in quotes.
- **DEFAULT:** If `/RPL_CLASS` is omitted, the default is not to change the replication class.
- **PRIVILEGE:** You must have `ALLOCATION` privilege to specify `/RPL_CLASS`.

`/VERSION` Specifies the relative version number of the files selected to be modified.

- **FORMAT:** `/VERSION=version` or `/VERSION=*`  
  
The value of `version` can range from 0 through -32767.
- **DEFAULT:** `/VERSION=0`
- **RESTRICTIONS:** `/VERSION` can be specified only with the following version-dependent attributes:
  - ARCHIVED
  - ATF
  - BACKUP (file version is a candidate for being archived or backed up)
  - BACKED UP (users cannot directly set this attribute)
  - RETENTION
  - REPLICATED
  - RPL\_CLASS
  - VTF

`/VOLUME` Indicates that the command will select only files with one or more extents on the volume specified by this modifier.

- **FORMAT:**

- /VOLUME={media\_type}{recording\_type}{volume\_label}:{side}
  - /VOLUME={media\_type}{recording\_type}{volume\_label}\*
- DEFAULT: If you omit /VOLUME, the system does not select files by volume.
  - RESTRICTION: /VOLUME and /VSET are mutually exclusive.
- /VSET** Indicates that the command will select only files in the volume set specified by this modifier.
- FORMAT: /VSET=vset\_name
  - FORMAT RESTRICTIONS: Wild cards are not allowed.
  - DEFAULT: If you omit /VSET, the system does not use the volume set name to select files.
  - RESTRICTION: /VOLUME and /VSET are mutually exclusive.
- /VTF** Specifies a file version's VTF (Vulnerability Time Factor) attribute, which determines how long StorHouse can leave new extents of the file version in the performance buffer before copying them to their primary file set.
- VTF is a version-dependent attribute and has no effect on other versions of the file. The value of the /VERSION modifier determines which version is changed.
- FORMAT: /VTF=NEXT, /VTF=NOW, or /VTF=DIRECT
- If you specify /VTF=NEXT, the file is written to the performance buffer. The next time a backup occurs, the file is copied to its primary file set.
- If you specify /VTF=NOW, StorHouse copies the new version from the performance buffer to its primary file set as part of the command.
- If you specify /VTF=DIRECT, the file bypasses the performance buffer. Extents are written directly to their primary file set.
- DEFAULT: If you omit /VTF, the value of the file's VTF attribute is not changed.
  - PRIVILEGE: This modifier requires VTF privilege.

## Examples

- Assume you have sufficient access to bypass specifying file and group passwords. To replace USERFILE's existing file passwords with new read, write, and delete passwords (READ, WRITE, and DELETE) or establish these passwords if USERFILE has none, enter:

? SET FILE USERFILE /NEWPASSWORDS=READ:WRITE:DELETE

- If you do not have sufficient access to bypass specifying file and group passwords and the passwords already exist, you must specify them as follows:

```
? SET FILE USERFILE /PASSWORDS=::OLDDEL
/GROUP=USERGRP::GRPDEL
/NEWPASSWORDS=READ:WRITE:DELETE
```

If you must specify a file password in order to gain file access, only the delete password is required. In this instance, the password is OLDDEL. Likewise, the delete password for USERGRP is GRPDEL.

- To specify that relative version 0 (the default version) of the file USERFILE is not to be archived or backed up if an ARCHIVE or CREATE BACKUP command is executed, enter:

```
? SET FILE USERFILE /NOBACKUP
```

- To specify that all files in volume set MAY00 will be written to the performance buffer and then copied to their primary file sets the next time a backup occurs, enter:

```
? SET FILE * /VSET=MAY00 /VTF=NEXT /GROUP=* /VERSION=*
```

- To specify that version -1 of USERFILE will be assigned the STANDARD replication class and a retention period of 60 days, enter:

```
? SET FILE USERFILE /RPL_CLASS=STANDARD /RETENTION=60
/VERSION=-1
```













## SET FSET

The SET FSET command changes the attributes of a file set.

### Format

SET FSET fset\_name

| COMMAND FORMAT SUMMARY          |                            |                       |                      |                        |            |
|---------------------------------|----------------------------|-----------------------|----------------------|------------------------|------------|
| COMMAND, PARAMETER, OR MODIFIER | REQUIRED COMMAND PRIVILEGE | REQUIRED GROUP ACCESS | REQUIRED FILE ACCESS | MINIMUM ACCOUNT ACCESS | DEFAULT    |
| SET FSET                        | ALLOCATION +SYSTEM         | -                     | -                    | -                      | -          |
| /REPORT                         | -                          | -                     | -                    | -                      | -          |
| fset_name                       | -                          | -                     | -                    | -                      | (Required) |
| /AUTO_STAGE                     | -                          | -                     | -                    | -                      | -          |
| /FORCE_RETENTION                | -                          | -                     | -                    | -                      | -          |
| /LIMIT=...                      | -                          | -                     | -                    | -                      | -          |
| /REDUCE                         | -                          | -                     | -                    | -                      | -          |
| /RELEASE                        | -                          | -                     | -                    | -                      | -          |
| /RETENTION=...                  | -                          | -                     | -                    | -                      | -          |
| /RPL_CLASS=...                  | -                          | -                     | -                    | -                      | -          |
| /SIZE=...                       | -                          | -                     | -                    | -                      | -          |
| /UPDATE=...                     | -                          | -                     | -                    | -                      | -          |
| /VSET=...                       | -                          | -                     | -                    | -                      | See text   |

### Description

SET FSET changes the attributes of a file set.

### Parameters

fset\_name Specifies the name of the file set to be changed.

- **FORMAT:** fset\_name
- **DEFAULT:** None; you must specify this parameter.

## Command Modifiers

**/REPORT** Controls the generation of special text responses for the completion of significant actions. **/REPORT** instructs StorHouse to generate a text response. **/NOREPORT** instructs StorHouse not to generate a text response.

- **FORMAT:** **/REPORT** or **/NOREPORT**
- **DEFAULT:** **/NOREPORT**

## Parameter Modifiers

All parameter modifiers except **/VSET** are mutually exclusive. You can only specify one in each command.

**/AUTO\_STAGE** Assigns or clears the file set **AUTO\_STAGE** attribute. The system administrator sets this attribute to enable StorHouse to automatically stage (copy) the files in the specified file set from Level L storage to the performance buffer for faster access when read from the host.

- **FORMAT:** **/AUTO\_STAGE** or **/NOAUTO\_STAGE**
- **DEFAULT:** No change.
- **RESTRICTIONS:** The file set must be a primary file set on Level L storage.
- **PRIVILEGES:** None.

**/FORCE\_RETENTION** Specifies whether the file set retention value overrides the file retention value explicitly supplied by an application at file create time. This modifier affects only new files in the file set. **/NOFORCE\_RETENTION** indicates that the file set retention value does not override the file retention value.

- **FORMAT:** **/FORCE\_RETENTION** or **/NOFORCE\_RETENTION**
- **DEFAULT:** If you omit **/FORCE\_RETENTION**, there is no change.
- **RESTRICTIONS:** **/FORCE\_RETENTION** can only be used when specifying a primary file set.

**/LIMIT** Specifies the maximum number of bytes this file set can contain. A **LIMIT** of 0 indicates that the maximum size is not limited.

When changing the size of the performance buffer file set, **/SIZE** and **/LIMIT** should be set to the same value. Note that this requires two **SET FSET** commands, and the **/SIZE** value cannot be greater than the **/LIMIT** value. When increasing **/SIZE**, set **/LIMIT** first. When decreasing **/SIZE**, set **/SIZE** first.

- **FORMAT:** /LIMIT=number\_of\_bytes or /LIMIT=0

The value for number\_of\_bytes can range from 0 up to 4294967295 (do not use commas in the specification). Use K to indicate 1,000-byte units, M to indicate 1,000,000-byte units, and G to indicate 1,000,000,000-byte units. If you do not specify K, M, or G, the number defaults to 1-byte units.

- **DEFAULT:** If you omit /LIMIT, the LIMIT attribute of the file set is not changed.
- **RESTRICTIONS:** If the value of /LIMIT is not zero, it must be greater than or equal to the value of the file set's /SIZE, that is, the number of bytes in the file set.

**/REDUCE** Indicates that StorHouse will deallocate all unnecessary general-use free storage from the file set. It also deallocates all free storage reserved for updates except for any that must be retained to meet the requirements of the update attribute. If the value of the update attribute is zero, StorHouse deallocates all unnecessary free storage.

The system returns the deallocated storage to the free pool of the associated volume set. Unlike /RELEASE, if the file set size becomes zero after the reduce operation, StorHouse does not remove the file set definition from the system.

- **FORMAT:** /REDUCE
- **DEFAULT:** If you omit /REDUCE, other modifiers control any changes to file set storage.
- **RESTRICTIONS:**
  - You cannot reduce the performance buffer FSET (VSET=MAGDISK, FSET=\$\$BUFFER)
  - You cannot reduce the checkpoint file set if the system parameter CHKP\_ON is set to TRUE.

**/RELEASE** Indicates that StorHouse is to deallocate free storage from the file set. StorHouse deallocates all unnecessary general-use free storage. It also deallocates all free storage reserved for updates except for any that must be retained to meet the requirements of the update attribute. If the value of the update attribute is zero, StorHouse releases all unnecessary free storage.

The system returns the deallocated storage to the volume set's free storage. If the system deallocates all storage allocated to the file set (none was used, so the size becomes zero), the system removes the file set.

- **FORMAT:** /RELEASE
- **DEFAULT:** If you omit /RELEASE, other modifiers control any changes to file set storage.

- RESTRICTIONS:
  - You cannot release the performance buffer FSET (VSET=MAGDISK, FSET=\$\$BUFFER)
  - You cannot release the checkpoint file set if the checkpointing feature is enabled (in other words, if CHKP\_ON is set to TRUE).
  - SET FSET/RELEASE does remove file sets with non-zero retention values when the RETENTION\_MODE system parameter is set to STRICT.

**/RETENTION** Specifies the file set retention attribute (retention period). The file set retention attribute applies only to new files (in the file set) that were created without a specified retention value, unless **/FORCE\_RETENTION** is in effect on the file set.

- FORMAT:

| Option                           | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>/RETENTION=DEFAULT</b>        | Sets the retention period to the default value.                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>/RETENTION=number_of_days</b> | <p>Sets the retention period to the specified number of days. The retention period ends when the current date is beyond the file's last_modified date plus the specified retention value.</p> <p>A value of 0 indicates no retention period (same as specifying ZERO).</p> <p>Example: <b>/RETENTION=3</b></p> <p>In this example, the retention period is 3 days. The retention period for a file that was last modified at 11 p.m. on December 12 expires at 11 p.m. on December 15.</p> |
| <b>/RETENTION=ZERO</b>           | Sets no retention period.                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>/RETENTION=FOREVER</b>        | Sets an infinite retention period.                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

- **DEFAULT:** If you omit **/RETENTION**, the default is to keep the current file set retention attribute.
- **RESTRICTIONS:**
  - The **RETENTION\_MODE** system parameter determines which retention settings are valid. If the **RETENTION\_MODE** is **STRICT**, you may set **/RETENTION** only to a more restrictive value than its current setting (for example, from a current retention of 100 days to a new retention of 200 days). If the **RETENTION\_MODE** is **BASIC**, you may set **/RETENTION** to any valid value (for example, from a current retention of 60 days to a retention of 30 days or 90 days).

- When you specify /RETENTION, the specified file set must be a primary file set.

**/RPL\_CLASS** Specifies the name of the replication class for new files written to this file set. A replication class is a collection of replication-related information (network device identification and system, file set, volume set, and link names) about the target StorHouse system. If the specified replication class does not exist, StorHouse generates a warning message.

- **FORMAT:** /RPL\_CLASS=replication\_class\_name or /NORPL\_CLASS

A replication\_class\_name can consist of from 1 to 8 of the following ASCII characters: A-Z, 0-9, \_, and \$. StorHouse always forces replication class names to uppercase, even when enclosed in quotes.

- **DEFAULT:** If you omit /RPL\_CLASS, the default is no change.
- **RESTRICTIONS:** When you specify /RPL\_CLASS, the specified file set must be a primary file set.

**/SIZE** Specifies the number of bytes in the file set.

When changing the size of the performance buffer file set, /SIZE and /LIMIT should be set to the same value. Note that this requires two SET FSET commands, and the /SIZE value cannot be greater than the /LIMIT value. When increasing /SIZE, set /LIMIT first. When decreasing /SIZE, set /SIZE first.

- **FORMAT:** /SIZE=number\_of\_bytes or /SIZE=0

The value for number\_of\_bytes can range from 0 up to 4294967295 (do not use commas in the specification). Use K to indicate 1,000-byte units, M to indicate 1,000,000-byte units, and G to indicate 1,000,000,000-byte units. If you do not specify K, M, or G, the number defaults to 1-byte units.

- If the value of /SIZE is larger than the current size of the file set, the system allocates space to the set until the desired size is reached.
- If the value of /SIZE is smaller than the current size of the file set, the system deallocates all unnecessary free space from the file set.
- If the specified size is less than the size already allocated to files, the system rejects the request.
- If the file set is contiguous, the system allocates entire volume sides unless the file set's LIMIT attribute restricts an allocation to less than a full side. For noncontiguous file sets, the system tries to extend to contiguous space (on the same volume side) if it is available, but any available space can be used if contiguous space is not available.

If level F consists of only one volume, the LIMIT of a contiguous level F file set must be smaller than the size of one volume side. Otherwise, the level F file set must be noncontiguous. This restriction does not apply to file sets on optical storage.

- **DEFAULT:** If you omit /SIZE, the size attribute is not changed, or changes are controlled by other modifiers.
- **RESTRICTIONS:** The value of /SIZE must be less than or equal to the value of the limit attribute for the file set.

**/UPDATE** Specifies a percentage of the file set size that is to be set aside for VRAM file updates. The percentage can range from 0 to 99.

- **FORMAT:** /UPDATE=percentage
  - If the percentage value is larger than the previous value, the file set may not have enough free space on one or more volume sides to meet the requirement. In these cases, the system sets aside what space there is and ignores the deficiencies.
  - If the size of the updates written already exceeds the amount to be set aside, the system reserves no additional space.
  - If the percentage value is smaller than the previous value, the system frees for general use any excess unused space reserved for updates.
- **DEFAULT:** If you omit /UPDATE, the system does not change the update percentage.

**/VSET** Specifies the volume set on which the file set exists.

- **FORMAT:** /VSET=vset\_name
- **FORMAT RESTRICTIONS:** Wild cards are not allowed.
- **DEFAULT:** If you omit /VSET or specify /VSET without the vset\_name, the system uses the default volume set name from your account.

## Examples

- To release all unused partitions (in other words, the part of the file set on a volume side) if USERFSET is a contiguous file set, or to release all free storage from the file set if USERFSET is a noncontiguous file set, enter:

```
? SET FSET USERFSET /RELEASE
```

- Assume the following:

- USERFSET is a contiguous file set with a current allocation of one entire volume side (3500 MB).
- USERFSET has a LIMIT of zero, which indicates no limit.
- USERFSET belongs to the volume set USERVSET, which has a current allocation of three additional empty sides (3500 MB per side).

To cause StorHouse to allocate all free space on one entire volume side to USERFSET, enter:

```
? SET FSET USERFSET /VSET=USERVSET /SIZE=4000MB
```

- To assign the AUTO\_STAGE attribute to the FSET00 file set, enter:

```
? SET FSET FSET00 /AUTO_STAGE
```

## SET GROUP

The SET GROUP command modifies group passwords and the amount of reserved performance buffer space for a group.

### Format

SET GROUP groupname<:::deletepw>

| COMMAND FORMAT SUMMARY          |                            |                       |                      |                        |              |
|---------------------------------|----------------------------|-----------------------|----------------------|------------------------|--------------|
| COMMAND, PARAMETER, OR MODIFIER | REQUIRED COMMAND PRIVILEGE | REQUIRED GROUP ACCESS | REQUIRED FILE ACCESS | MINIMUM ACCOUNT ACCESS | DEFAULT      |
| SET GROUP                       | GROUP                      | -                     | -                    | -                      | -            |
| /REPORT                         | -                          | -                     | -                    | -                      | -            |
| groupname                       | -                          | D                     | -                    | -                      | (Required)   |
| /NEWPASSWORDS=...               | PASSWORD                   | D                     | -                    | -                      | -            |
| /PERF_BUF=...                   | SYSTEM                     | -                     | -                    | -                      | Current size |

### Description

SET GROUP modifies group passwords and the amount of reserved performance buffer space for a group. When you use /NEWPASSWORDS, all three existing passwords are replaced. If you do not specify a password, the default is a null password.

### Parameters

**groupname** Specifies the access group name and, optionally, the group's existing delete password.

- **FORMAT:**
  - groupname:::deletepw
  - groupname
- **DEFAULT:** You must specify a group name. If you do not specify a password, the default password is null.
- **ACCESS REQUIREMENTS:** Delete access to the group.

You must specify the delete password unless:

- The group is not protected by a delete password.
- Your privilege bypasses delete access password checks.



- Your default access to the group includes delete access.

## Command Modifiers

**/REPORT** Controls the generation of special text responses for the completion of significant actions. **/REPORT** instructs StorHouse to generate a text response. **/NOREPORT** instructs StorHouse not to generate a text response.

- **FORMAT:** **/REPORT** or **/NOREPORT**
- **DEFAULT:** **/NOREPORT**

## Parameter Modifiers

**/NEWPASSWORDS** Replaces one or more existing passwords for an access group.

- **FORMAT:**
  - **/NEWPASSWORDS=<readpw>:<writepw>:<deletepw>**
  - **/NEWPASSWORDS=<readpw>:<writepw>**
  - **/NEWPASSWORDS=readpw**
  - **/NONEWPASSWORDS**

Specifying **/NONEWPASSWORDS** is equivalent to specifying **/NEWPASSWORDS** with null read, write, and delete passwords.

A group password can be null or contain 1 to 8 characters, consisting of the following ASCII characters: A-Z (uppercase), 0-9, \_ (underscore), and \$ (dollar sign). StorHouse always translates passwords to uppercase characters, even if they are enclosed in quotes.

- **DEFAULT:** If you omit **/NEWPASSWORDS**, the system retains the existing passwords, if any.

If you specify **/NEWPASSWORDS** but do not specify one or more passwords, the system assigns a null password for each unspecified password.

- **ACCESS REQUIREMENTS:** Delete access to the file and **PASSWORD** privilege.

**/PERF\_BUF** Specifies the number of bytes of performance buffer space to be reserved for the group's exclusive use. If the specified size is greater than the current size and space is available (relative to the minimum amount of performance buffer space reserved for the general area by the **MIG\_GENERAL** system parameter), StorHouse attempts to increase the reserved space. If the additional space is not available, StorHouse retains the amount currently reserved. If the specified size is less than the current size, StorHouse attempts to decrease the reserved space.

- **FORMAT:** /PERF\_BUF=number\_of\_bytes

You must specify the number\_of\_bytes value as n, nK, nM, or nG.

The letter n represents a numeric field. The value of n can range from 0 up to 4294967295. (Do not include commas when specifying a number with more than three digits.) K indicates that the number is in 1,000-byte units; M indicates 1,000,000-byte units; and G indicates 1,000,000,000-byte units. If K, M, or G is not present, the number defaults to 1-byte units.

- **DEFAULT:** If you omit /PERF\_BUF, the amount of performance buffer space currently reserved remains unchanged.

## Examples

- To replace all group passwords for the file access group USERGRP with new read, write, and delete passwords (READ, WRITE, and DELETE, respectively), enter:

```
? SET GROUP USERGRP /NEWPASSWORDS=READ:WRITE:DELETE
```

In this case, the group was not protected by passwords before the command was entered. You must have GROUP privilege to execute this command.

- To set the size of the performance buffer space reserved for USERGRP to 200 MB, enter:

```
? SET GROUP USERGRP /PERF_BUF=200M
```

# SET SYSTEM

The SET SYSTEM command sets the parameters that control features of the system.

## Format

SET SYSTEM name <value>

| COMMAND FORMAT SUMMARY          |                            |                       |                      |                        |            |
|---------------------------------|----------------------------|-----------------------|----------------------|------------------------|------------|
| COMMAND, PARAMETER, OR MODIFIER | REQUIRED COMMAND PRIVILEGE | REQUIRED GROUP ACCESS | REQUIRED FILE ACCESS | MINIMUM ACCOUNT ACCESS | DEFAULT    |
| SET SYSTEM                      | SYSTEM                     | -                     | -                    | -                      | -          |
| /CONFIRM                        | -                          | -                     | -                    | -                      | -          |
| /REPORT                         | -                          | -                     | -                    | -                      | -          |
| name                            | -                          | -                     | -                    | -                      | (Required) |
| value                           | -                          | -                     | -                    | -                      | See text   |

## Description

SET SYSTEM changes system parameter values, which are used in system management.

You can schedule SET SYSTEM using the StorHouse Command Language SCHEDULE command.

## Parameters

**name** The name parameter specifies the name of a system parameter. Some system parameters cannot be changed. System parameters are defined in Appendix A, "System Parameter Descriptions."

- **FORMAT:** name

System parameter names can contain 1 to 16 characters.

- **DEFAULT:** None; you must specify this parameter.

value Specifies a value for the named system parameter. The valid values for each parameter are defined in Appendix A, “System Parameter Descriptions.”

- FORMAT: value
- DEFAULT: None; you must specify this parameter.

## Command Modifiers

**/CONFIRM** Controls whether StorHouse asks you to confirm the command.

- FORMAT: /CONFIRM or /NOCONFIRM
- DEFAULT: /NOCONFIRM

When the system requests a confirmation, enter YES (also Y or YE) or NO (also N). If you press **R** or enter any characters other than those described as a YES response, StorHouse interprets them as NO.

**/REPORT** Controls the generation of special text responses for the completion of significant actions. /REPORT instructs StorHouse to generate a text response. /NOREPORT instructs StorHouse not to generate a text response.

- FORMAT: /REPORT or /NOREPORT
- DEFAULT: /NOREPORT

## Examples

- To set the minimum number of empty volumes desired for library device 0 (L00), media and recording type OAD, to 8, enter:

```
? SET SYSTEM FREE_POOL_L00OAD 8
```

If the number of empty volumes in the library device drops below 8, the operator will receive a message to load a blank volume.

- To indicate that the operator is not present to handle StorHouse operator requests, such as requests to load or unload volumes, enter:

```
? SET SYSTEM OPERATOR FALSE
```

Operations that require operator intervention are rejected until the following command is executed:

```
? SET SYSTEM OPERATOR TRUE
```

- To set the number of 20-pass tape cleaning cartridges desired for library device 1 (L01), media and recording type TBZ, to 2, enter:

```
? SET SYSTEM FREE_POOL_L01TBZ 2
```

If the number of tape cleaning cartridges in the library device drops below 2, the operator will receive a message to load a blank volume (in other words, a fresh tape cleaning cartridge).

## SET USER

The SET USER command changes user session characteristics for the remainder of the user's session or until another SET USER command changes these characteristics again.

### Format

SET USER

| COMMAND FORMAT SUMMARY          |                            |                       |                      |                        |          |
|---------------------------------|----------------------------|-----------------------|----------------------|------------------------|----------|
| COMMAND, PARAMETER, OR MODIFIER | REQUIRED COMMAND PRIVILEGE | REQUIRED GROUP ACCESS | REQUIRED FILE ACCESS | MINIMUM ACCOUNT ACCESS | DEFAULT  |
| SET USER                        | -                          | -                     | -                    | -                      | -        |
| /CONSOLE                        | CONSOLE                    | -                     | -                    | -                      | See text |
| /FSET=...                       | -                          | -                     | -                    | -                      | See text |
| /GROUP=...                      | SETGROUP                   | R, W, or D            | -                    | -                      | See text |
| /VSET=...                       | -                          | -                     | -                    | -                      | See text |
| /WILDCARD=...                   | -                          | -                     | -                    | -                      | See text |

### Description

SET USER can be used to modify characteristics for the user's current session. Changes made with this command are nullified when the user signs off.

### Command Modifiers

**/CONSOLE** Controls the queuing of operator messages for access by the user. You must specify SET USER /CONSOLE to display operator messages at terminals other than the system console. However, you do not need to specify SET USER /CONSOLE to reply to operator messages (at any terminal, including the system console).

If you specify /CONSOLE, the system queues operator messages for you. You can then read operator messages using the CONSOLE command. If you have OPERATOR privilege, the CONSOLE command also allows you to enter replies to operator messages. For more information, see the CONSOLE command description on page 3-29.

If you specify /NOCONSOLE, the system removes any existing queue of operator messages for you and no longer queues new messages for you.

- **FORMAT:** /CONSOLE or /NOCONSOLE
- **DEFAULT:** If you omit /CONSOLE, your console status is not changed.
- **PRIVILEGE:** CONSOLE privilege

**/FSET** Specifies the account's default file set name for the rest of the session or until the account user changes it again.

- **FORMAT:** /FSET=fset\_name or /FSET
- **DEFAULT:** If you omit /FSET, the default is the existing default file set name.

If you specify /FSET without the fset\_name, the default file set name from your account is used as the default fset\_name.

**/GROUP** Changes the account's default access group and default access rights for the current session or until the account user changes it again. /GROUP specifies a new default access group and passwords. The group must exist. Any specified password (non-null password) must match the group's password, or the system returns an error.

- **FORMAT:**
  - /GROUP=groupname<:<readpw><:<writepw><:<deletepw>>>
  - /GROUP

The system grants you each type of access for which you specify a valid password (or a null password if the group has a corresponding null password):

- You must specify a read password to control read access, a write password to control write access, and/or a delete password to control delete access to the group.
- If you specify a null password (no password), but the group has a non-null password in the corresponding password position, no error is returned; however, the system does not grant that type of default access to you.
- If you have ALLPRIVILEGE or ANYGROUP privilege, the system grants you read, write, and delete access by default.
- **DEFAULT:** If you do not specify a password, the default is to use a null password in its place.

If you specify /GROUP without a group name and passwords, then the default is to use the default group name and access right(s) from your account.

- **PRIVILEGE:** SETGROUP privilege is required even for your default group.
- **ACCESS REQUIREMENTS:** Read, write, or delete access.

**/VSET** Specifies the account's default volume set name for the rest of the session or until the account user changes it again.

- **FORMAT:** /VSET=vset\_name or /VSET
- **DEFAULT:** If you omit /VSET, the default is to keep the existing default volume set name.

If you specify /VSET without the vset\_name, the default volume set name from your account is used as the default vset\_name.

**/WILDCARD** Specifies the character to be used in subsequent commands as the wild card.

- **FORMAT:** /WILDCARD=character or /WILDCARD

You must enclose in quotes non-alphanumeric wild card characters, other than the asterisk, when you use them in a command.

- **FORMAT RESTRICTIONS:**
  - For IBM MVS hosts, character can be any character that can be translated to a printable ASCII character, except the following special symbols: , : " = | () /
  - For UNIX hosts, character can be any printable ASCII character, except the following special symbols: " ! () : = /

Appendix C, "ASCII Characters" contains a list of valid ASCII characters.

- **DEFAULT:** If you specify /WILDCARD without a character, the system sets the wild card character to the default, the asterisk (\*).

## Examples

- To change the user's default file access group, volume set, and file set to NEWGROUP, NEWVSET, and NEWFSET, respectively, enter:

```
? SET USER /GROUP=NEWGROUP /VSET=NEWVSET /FSET=NEWFSET
```

The new defaults will be used until you sign off or change them again with the SET USER command. The next time you sign on, the group, volume set, and file set will default to the original values assigned to your account.



- To establish the dollar sign (\$) as your default wildcard for the remainder of the current session or until another SET USER command is executed, enter:

```
? SET USER /WILDCARD=$
```

The next time you sign on, the wildcard character will be the default wildcard, the asterisk (\*).

## SET VOLUME

The SET VOLUME command changes the status of a level L or level S volume.

### Format

SET VOLUME vid

| COMMAND FORMAT SUMMARY         |                            |                       |                      |                        |            |
|--------------------------------|----------------------------|-----------------------|----------------------|------------------------|------------|
| COMMAND PARAMETER, OR MODIFIER | REQUIRED COMMAND PRIVILEGE | REQUIRED GROUP ACCESS | REQUIRED FILE ACCESS | MINIMUM ACCOUNT ACCESS | DEFAULT    |
| SET VOLUME                     | -                          | -                     | -                    | -                      | -          |
| /CONFIRM                       | -                          | -                     | -                    | -                      | -          |
| /REPORT                        | -                          | -                     | -                    | -                      | -          |
| vid                            | -                          | -                     | -                    | -                      | (Required) |
| /CLEANED                       | OPERATOR                   | -                     | -                    | -                      | -          |
| /CYCLE=...                     | ALLOCATION                 | -                     | -                    | -                      | -          |
| /DEACTIVATE=...                | ALLOCATION                 | -                     | -                    | -                      | -          |
| /DIRECTORY=...                 | -                          | -                     | -                    | -                      | -          |
| /DISABLE                       | OPERATOR                   | -                     | -                    | -                      | -          |
| /ENABLE                        | OPERATOR                   | -                     | -                    | -                      | -          |
| /EXPIRE=...                    | ALLOCATION                 | -                     | -                    | -                      | -          |
| /HOLD                          | ALLOCATION                 | -                     | -                    | -                      | -          |
| /MEMO=...                      | -                          | -                     | -                    | -                      | -          |
| /UNWRITELOCK                   | OPERATOR                   | -                     | -                    | -                      | -          |
| /VALIDATE_DATE                 | ALLOCATION                 | -                     | -                    | -                      | -          |
| /VSET=...                      | -                          | -                     | -                    | -                      | -          |
| /WRITELOCK                     | OPERATOR                   | -                     | -                    | -                      | -          |

### Description

SET VOLUME allows you to change the status or attributes of a volume. The changes are not recorded in volume label and are not retained if the volume is subsequently exported and imported or recovered.

You can schedule the SET VOLUME command using the SCHEDULE command.

## Parameters

- vid Specifies the volume identifier (vid) of the volume for which attributes are to be set.
- **FORMAT** (the braces “{}” are not part of the specification):
    - {media\_type}{recording\_type}{volume\_label}:{side}
    - {media\_type}{recording\_type}{volume\_label}:\*
    - {media\_type}{recording\_type}{partial\_volume\_label}\*
    - {media\_type}{recording\_type}\*
    - {media\_type}\*
    - \*
  - **DEFAULT:** None; you must specify this parameter.
  - **RESTRICTIONS:**
    - Volume identification codes for free pool volumes are allowed only when you also specify /DISABLED or /ENABLED.
    - A wild card is not allowed in the volume identifier when you specify the /CLEANED modifier. Specify the volume identifier (including side) given in the message that indicated the volume needed cleaning.
    - If you specify a wild card for the entire vid parameter, you must also specify /DIRECTORY or /VSET. If you specify a wildcard for the volume side portion of the vid parameter only, you do not need to specify /DIRECTORY or /VSET.

## Command Modifiers

/CONFIRM Controls whether StorHouse asks you to confirm the command.

- **FORMAT:** /CONFIRM or /NOCONFIRM
- **DEFAULT:** /NOCONFIRM

When the system requests a confirmation, enter YES (also Y or YE) or NO (also N). If you press R or enter any characters other than those described as a YES response, StorHouse interprets them as NO.

/REPORT Controls the generation of special text responses for the completion of significant actions. /REPORT instructs StorHouse to generate a text response. /NOREPORT instructs StorHouse not to generate a text response.

- FORMAT: /REPORT or /NOREPORT
- DEFAULT: /NOREPORT

## Parameter Modifiers

**Note:** All parameter modifiers for SET VOLUME are mutually exclusive. You must execute separate commands to set multiple volume attributes.

**/CLEANED** Specifies that an optical volume side has been cleaned (this modifier does not apply to tape volumes). The command resets the count of defective areas for the specified volume side to 0 and unwritelocks that volume side. When a volume side is unwritelocked, the system can allocate more space on that volume side if any is available.

For each optical media type, StorHouse defines the maximum number of times that defective areas on an optical disk surface can be skipped. A portion of a volume surface may be defective because of dirt or media flaws. When a surface exceeds the designated number of defective areas, the system writelocks that surface and generates an XROINFO operator message stating "EXCESSIVE MEDIA ERRORS – VOLUME NEEDS CLEANING, VOLUME=vid."

If you attempt to clean a volume that cannot be written in the library (such as a Hitachi-1 volume in a Hitachi-2 library), the system will not unwritelock the volume.

Before executing SET VOLUME /CLEANED for an optical disk volume, the system operator should remove the specified volume from the library device and clean *both* volume sides, regardless of the side displayed in the message. Then the operator should execute SET VOLUME /CLEANED once, specifying the volume side indicated in the message. Refer to the *System Operator's Guide* for more information about the sequence of commands used with SET VOLUME /CLEANED.

- FORMAT: /CLEANED
- DEFAULT: If you omit /CLEANED, this modifier has no effect.
- RESTRICTIONS:
  - Clean both sides of the volume and execute SET VOLUME /CLEANED once. Specify the volume side indicated in the message. This modifier does not apply to tape volumes.
  - /CLEANED is mutually exclusive with all other parameter modifiers except /DIRECTORY and /VSET.
- PRIVILEGE: /CLEANED requires OPERATOR privilege.

- /CYCLE** Specifies the number of days after the *last* allocation of file space on the first side of a volume that the system will deactivate that side and activate the second side of the volume. You must specify side A in the *vid* parameter when using **/CYCLE**; otherwise, StorHouse will reject the command. The new value for **/CYCLE** applies to both sides of the volume. If the volume has only one side, a non-zero **/CYCLE** value will cause the system to do nothing when the value is assigned and to deactivate the side when the specified number of days has passed since the last file space was allocated on the volume.
- If the specified number of days is zero, the system does not deactivate the second side when a volume is added to the volume set. If the volume has already cycled, you can activate both sides and nullify the cycle attribute by setting the value of **/CYCLE** to zero. You can activate the first side and deactivate the second side by setting the value of **/CYCLE** large enough to move the cycle time into the future.
- **FORMAT:** **/CYCLE=number\_of\_days**  
The *number\_of\_days* must be a numeric value between 0 and 10000.
  - **DEFAULT:** If you omit **/CYCLE**, this modifier has no effect.
  - **RESTRICTIONS:**
    - Specify side A in the volume identification code.
    - **/CYCLE** is mutually exclusive with all other parameter modifiers except **/DIRECTORY** and **/VSET**.
    - This modifier does not apply to level F volumes.
  - **PRIVILEGE:** **/CYCLE** requires **ALLOCATION** privilege.
- /DEACTIVATE** Specifies the number of days after the *first* file space allocation on a volume side that the system will deactivate the side. Once a side is deactivated, the system no longer allocates space for files on that side.
- If the specified number of days is zero, the system does not deactivate volume sides based on the first allocation. If the volume side has already been deactivated, you can activate it and nullify the deactivate attribute by setting the time to zero. You can also activate the side by setting the time to a large enough value to move the deactivation time into the future.
- **FORMAT:** **/DEACTIVATE=number\_of\_days**  
The *number\_of\_days* must be a numeric value between 0 and 10000.
  - **DEFAULT:** If you omit **/DEACTIVATE**, this modifier has no effect.
  - **RESTRICTIONS:**

- /DEACTIVATE is mutually exclusive with all other parameter modifiers except /DIRECTORY and /VSET.
  - This modifier does not apply to level F volumes.
  - PRIVILEGE: /DEACTIVATE requires ALLOCATION privilege.
- /DIRECTORY** Indicates that the command will consider for selection only volumes in the directory specified by this modifier.
- FORMAT:
    - /DIRECTORY=ARCHIVE
    - /DIRECTORY=BACKUP
    - /DIRECTORY=PRIMARY
  - DEFAULT: If you omit /DIRECTORY, the system does not use the directory to which the volume belongs to select volumes.
  - RESTRICTION: /DIRECTORY and /VSET are mutually exclusive.
- /DISABLE** Sets the status of the specified volume side to DISABLED, which prevents the system from selecting it for normal read and write operations. The system operator can use this feature to prevent StorHouse from attempting to use a damaged, missing, or otherwise unreadable volume. The /ENABLE modifier removes the DISABLED status.
- FORMAT: /DISABLE
  - DEFAULT: If you omit /DISABLE, this modifier has no effect.
  - RESTRICTIONS: /DISABLE is mutually exclusive with all other parameter modifiers except /DIRECTORY and /VSET.
  - PRIVILEGE: /DISABLE requires OPERATOR privilege.
- /ENABLE** Removes the DISABLED status for the specified volume side, which allows the system to select it for normal read and write operations. The /DISABLE modifier sets the volume side's status to DISABLED.
- FORMAT: /ENABLE
  - DEFAULT: If you omit /ENABLE, this modifier has no effect.
  - RESTRICTIONS: /ENABLE is mutually exclusive with all other parameter modifiers except /DIRECTORY and /VSET.
  - PRIVILEGE: /ENABLE requires OPERATOR privilege.
- /EXPIRE** Specifies the number of days after the *last* allocation of file space on a volume side that the system will mark the side as deactivated and expired.

If the specified number of days is zero, the system does not expire volume sides based on the last allocation. If the volume has already expired, you can activate the volume, remove the expiration, and nullify the expire attribute by setting the time to zero. You can also activate the volume and remove the expiration by setting the time to a large enough value to move the expiration into the future.

- **FORMAT:** /EXPIRE=number\_of\_days

The number\_of\_days must be a numeric value between 0 and 20000.

- **DEFAULT:** If you omit /EXPIRE, this modifier has no effect.
- **RESTRICTIONS:**
  - /EXPIRE is mutually exclusive with all other parameter modifiers except /DIRECTORY and /VSET.
  - This modifier does not apply to level F volumes.
- **PRIVILEGE:** /EXPIRE requires ALLOCATION privilege.

**/HOLD** Specifies a new value for the HOLD attribute for the volume. Volumes having a HOLD attribute value of HOLD are selected for migration out of a library device after those having a value of NOHOLD.

StorHouse will use the HOLD attribute value when considering the volume for any subsequent migrations of volumes out of the library device.

- **FORMAT:** /HOLD or /NOHOLD

/HOLD assigns a HOLD attribute value of HOLD to the volume. /NOHOLD assigns a value of NOHOLD.

- **DEFAULT:** If you omit the modifier, the current HOLD attribute is not changed.
- **RESTRICTIONS:** /HOLD is mutually exclusive with all other parameter modifiers except /DIRECTORY and /VSET.

**/MEMO** Specifies up to 32 characters of descriptive text to replace the current text, if any, that you specified with the MOVE VOLUME command. The text might be used to describe the new location of a volume that has been moved, such as a shelf number. You must enclose the field in quotes if you want to enter special characters or do not want to have lowercase characters translated to uppercase characters. The comment applies to the entire volume whether you specify the /MEMO modifier for side A or side B.

**Note** If you change the memo for the first volume in a volume set, you change the memo for the entire volume set. StorHouse uses the memo on the first volume in a volume set as the memo for the entire volume set.

The memo is displayed by the SHOW VOLUME command.

- **FORMAT:** /MEMO=text

You can enter a maximum of 32 printable ASCII characters. If you specify no text (for example, /MEMO="" or /NOMEMO), any existing memo for the volume is canceled.

- **DEFAULT:** If you omit /MEMO, this modifier has no effect.
- **RESTRICTIONS:** /MEMO is mutually exclusive with all other parameter modifiers except /DIRECTORY and /VSET.

**/UNWRITELOCK** Unwritelocks a writelocked volume.

The system writelocks a volume due to excessive errors or (for tape volumes) because it encountered the end of the tape before it was expected. A premature end-of-tape may be caused by an unusually short tape, excessive media errors, or an extremely large number of very small files.

If StorHouse writelocks a volume that is full, you can unwritelock the volume but you cannot allocate space on that volume. If you attempt to unwritelock a volume that cannot be written in the library (such as a Hitachi-1 volume in a Hitachi-2 library), StorHouse will not unwritelock the volume.

- **FORMAT:** /UNWRITELOCK
- **DEFAULT:** If you omit /UNWRITELOCK, this modifier has no effect.
- **RESTRICTIONS:** /UNWRITELOCK is mutually exclusive with all other parameter modifiers except /DIRECTORY and /VSET.
- **PRIVILEGE:** /UNWRITELOCK requires OPERATOR privilege.

**/VALIDATE \_DATE** Sets the VALIDATE\_DATE timestamps of each selected volume to the current date/time, the specified date/time, or the date/time the volume was initialized. For a full description of the absolute time and delta time data fields, see Appendix B, "Data Field, Parameter, and Modifier Definitions," in the *Command Language Reference Manual*.

- **FORMAT:**
  - /VALIDATE\_DATE
  - /VALIDATE\_DATE=absolute\_time
  - /VALIDATE\_DATE=delta\_time
  - /NOVALIDATE\_DATE
- **DEFAULT:** If you omit /VALIDATE\_DATE, the modifier has no effect.



RESTRICTIONS: This modifier is mutually exclusive with all parameter modifiers except /DIRECTORY and /VSET.

**/VSET** Indicates that the command will consider for selection only volumes in the volume set specified by this modifier.

- **FORMAT:** /VSET=vset\_name
- **FORMAT RESTRICTIONS:** Wild cards are not allowed.
- **DEFAULT:** If you omit /VSET, the system does not use the volume set name to select volumes.
- **RESTRICTIONS:**
  - Any media type, recording type, or volume label specified by the vid parameter must be compatible with the volumes in the volume set specified by /VSET or the system will not select any volumes.
  - /DIRECTORY and /VSET are mutually exclusive.

**/WRITELOCK** Indicates that the command will writelock the selected volume side.

- **FORMAT:** /WRITELOCK
- **DEFAULT:** If you omit /WRITELOCK, this modifier has no effect.
- **RESTRICTIONS:** /WRITELOCK is mutually exclusive with all other parameter modifiers except /DIRECTORY and /VSET.

## Examples

The following examples illustrate how to use the SET VOLUME command. Similar commands can be executed using the /DEACTIVATE and /EXPIRE modifiers in place of the /CYCLE modifier (see the modifier descriptions). You can specify only one modifier in each command.

- To change the CYCLE attribute of volume OAD2345C123 to 10 days, enter:

```
? SET VOLUME OAD2345C123:A /CYCLE=10
```

Ten days after the last file space allocation on side A of volume OAD2345C123, StorHouse deactivates side A and activates side B. At that time, file space can be allocated only on side B.

If volume OAD2345C123 has already cycled, this command reactivates side A and makes side B unavailable for use until 10 days (the new cycle time) have elapsed.

- To change the CYCLE attribute of volume OAD2345C123 to 0, enter:

```
? SET VOLUME OAD2345C123:A /CYCLE=0
```

A CYCLE attribute of zero means that StorHouse does not deactivate the second side when a volume is added to a volume set.

If volume OAD2345C123 has already cycled, this command reactivates side A and does not deactivate side B.

- When the system generates the XROINFO operator message that states “EXCESSIVE MEDIA ERRORS – VOLUME NEEDS CLEANING, VOLUME=vid,” the system operator should remove the specified volume from the library device and clean *both* sides according to the manufacturer’s instructions. Then the operator should execute SET VOLUME /CLEANED once, specifying the volume side indicated in the message.

For example, to clean volume OAD2345C123:A in response to the message “EXCESSIVE MEDIA ERRORS – VOLUME NEEDS CLEANING, VOLUME OAD2345C123:A,” enter:

```
? SET VOLUME OAD2345C123:A /CLEANED
```

- To change the memo for optical volume OAD2345C123 to indicate that the volume has been moved to slot 11 in rack 3, enter:

```
? SET VOLUME OAD2345C123:A /MEMO=“Rack 3 Slot 11”
```

- To unwrite lock tape TBB1234A1:A, enter:

```
? SET VOLUME TBB1234A1:A /UNWRITELOCK
```

- To disable both sides of the two-sided optical volume OEB01234567, enter:

```
? SET VOLUME OEB01234567:* /DISABLE
```

- To enable all volumes in volume set MAY00, enter:

```
? SET VOLUME * /ENABLE /VSET=MAY00
```

- To set the replication class for file set FSET1 in volume set VSET1 to STANDARD, enter:

```
? SET FSET FSET1 /RPL_CLASS=STANDARD /VSET=VSET1
```

- To set the retention period for files in file set FSET1 in volume set VSET1 to FOREVER, enter:

```
? SET FSET FSET1 /RETENTION=FOREVER /VSET=VSET1
```

# SET VSET

The SET VSET command changes the attributes of a volume set.

## Format

SET VSET vset\_name

| COMMAND FORMAT SUMMARY         |                            |                       |                      |                        |            |
|--------------------------------|----------------------------|-----------------------|----------------------|------------------------|------------|
| COMMAND PARAMETER, OR MODIFIER | REQUIRED COMMAND PRIVILEGE | REQUIRED GROUP ACCESS | REQUIRED FILE ACCESS | MINIMUM ACCOUNT ACCESS | DEFAULT    |
| SET VSET                       | ALLOCATION +SYSTEM         | -                     | -                    | -                      | -          |
| /REPORT                        | -                          | -                     | -                    | -                      | -          |
| vset_name                      | -                          | -                     | -                    | -                      | (Required) |
| /ARCFSET=...                   | -                          | -                     | -                    | -                      | -          |
| /ARCVSET=...                   | -                          | -                     | -                    | -                      | -          |
| /BKPFSET=...                   | -                          | -                     | -                    | -                      | -          |
| /BKPVSET=...                   | -                          | -                     | -                    | -                      | -          |
| /CYCLE=...                     | -                          | -                     | -                    | -                      | -          |
| /DEACTIVATE=...                | -                          | -                     | -                    | -                      | -          |
| /EXPIRE=...                    | -                          | -                     | -                    | -                      | -          |
| /HOLD                          | -                          | -                     | -                    | -                      | -          |
| /LIBRARY=...                   | -                          | -                     | -                    | -                      | -          |
| /LIMIT=...                     | -                          | -                     | -                    | -                      | -          |
| /MEMO=...                      | -                          | -                     | -                    | -                      | -          |
| /REDUCE                        | -                          | -                     | -                    | -                      | -          |
| /RELEASE                       | -                          | -                     | -                    | -                      | -          |
| /SIZE=...                      | -                          | -                     | -                    | -                      | -          |

## Description

SET VSET changes the attributes of a volume set or its size.

## Parameters

vset\_name Specifies the name of the volume set.

- FORMAT: vset\_name

- DEFAULT: None; you must specify this parameter.

## Command Modifiers

**/REPORT** Controls the generation of special text responses for the completion of significant actions. **/REPORT** instruct StorHouse to generate a text response. **/NOREPORT** instructs StorHouse not to generate a text response.

- FORMAT: **/REPORT** or **/NOREPORT**
- DEFAULT: **/NOREPORT**

## Parameter Modifiers

**Note:** All parameter modifiers for SET VSET are mutually exclusive. You can use only one in each command. To set multiple volume set attributes, you must execute separate SET VSET commands.

**/ARCFSET** Specifies the default destination archive file set for files in the primary volume set. The archive file set does not have to exist before you specify it on this modifier.

- FORMAT: **/ARCFSET=fset\_name** or **/ARCFSET=\***

File set names must contain 1 to 8 characters, consisting of the following ASCII characters: A-Z (uppercase), 0-9, \_ (underscore), and \$ (dollar sign). StorHouse always translates file set names to uppercase characters, even if they are enclosed in quotes.

- DEFAULT: If you omit **/ARCFSET**, this modifier has no effect.

**/ARCVSET** Specifies the default destination archive volume set for files in the primary volume set. The archive volume set does not have to exist before you specify it on this modifier.

- FORMAT: **/ARCVSET=vset\_name** or **/NOARCVSET**

Volume set names must contain 1 to 8 characters, consisting of the following ASCII characters: A-Z (uppercase), 0-9, \_ (underscore), and \$ (dollar sign). StorHouse always translates volume set names to uppercase characters, even if they are enclosed in quotes.

- FORMAT RESTRICTIONS: Wildcards are not allowed.
- DEFAULT: If you omit **/ARCVSET**, this modifier has no effect.

- /BKPFSET** Specifies the default destination backup file set for files in the primary volume set. The backup file set does not have to exist before you specify it on this modifier.
- **FORMAT:** /BKPFSET=fset\_name or /BKPFSET=\*
- File set names must contain 1 to 8 characters, consisting of the following ASCII characters: A-Z (uppercase), 0-9, \_ (underscore), and \$ (dollar sign). StorHouse always translates file set names to uppercase characters, even if they are enclosed in quotes.
- **DEFAULT:** If you omit /BKPFSET, this modifier has no effect.
- /BKPVSET** Specifies the default destination backup volume set for files in the primary volume set. The backup volume set does not have to exist before you specify it on this modifier.
- **FORMAT:** /BKPVSET=vset\_name or /NOBKPVSET
- Volume set names must contain 1 to 8 characters, consisting of the following ASCII characters: A-Z (uppercase), 0-9, \_ (underscore), and \$ (dollar sign). StorHouse always translates volume set names to uppercase characters, even if they are enclosed in quotes.
- **FORMAT RESTRICTIONS:** Wildcards are not allowed.
  - **DEFAULT:** If you omit /BKPVSET, this modifier has no effect.
- /CYCLE** Specifies the number of days after the *last* allocation of file space on the first side of a volume that the system will deactivate that side and activate the second side of the volume.
- Changes to the value of /CYCLE affect only volumes added to the volume set in the future. Volumes already in the volume set are not affected.
- **FORMAT:** /CYCLE=number\_of\_days
- The number\_of\_days must be a value between 0 and 10000.
- If the value is 0, StorHouse does not deactivate the second side of a volume when it is added to the volume set.
  - If the value is not 0, StorHouse deactivates the second side of each volume when it is added to the volume set. No space is allocated for files on the second side while it is deactivated. StorHouse activates the second side and deactivates the first side when the specified number of days has passed since the *last* file space was allocated on the first side. If the volume has only one side, a non-zero /CYCLE value will cause the system to do nothing when the value is assigned and to deactivate the side when the specified number of days has passed since the last file space was allocated on the volume.

- **DEFAULT:** If you omit /CYCLE, this modifier has no effect.
- **RESTRICTIONS:** This modifier does not apply to level F volume sets.

**/DEACTIVATE** Specifies the number of days after the first allocation of file space on a volume side that the system will deactivate the side; that is, the system will no longer allocate space for files on that side.

Changes to the value of /DEACTIVATE only affect volumes that are subsequently added to the volume set. Volumes currently in the volume set are not affected.

- **FORMAT:** /DEACTIVATE=number\_of\_days

The number\_of\_days must be a value between 0 and 10000.

- If the value is 0, StorHouse does not deactivate volume sides based on the first allocation.
- If the value is not 0, StorHouse deactivates a side of a volume when the specified number of days has passed since the *first* file space was allocated on the side. Once deactivated, StorHouse allocates no additional space for files on the side.
- **DEFAULT:** If you omit /DEACTIVATE, this modifier has no effect.
- **RESTRICTIONS:** This modifier does not apply to level F volume sets.

**/EXPIRE** Specifies the number of days after the *last* allocation of file space on a volume side that the system will mark the side as deactivated and expired.

Changes to the value of /EXPIRE only affect volumes that are subsequently added to the volume set. Volumes already in the volume set are not affected.

- **FORMAT:** /EXPIRE=number\_of\_days

The number\_of\_days must be a value between 0 and 20000.

- If the value is 0, StorHouse does not expire volume sides based on the last allocation.
- If the value is not 0, StorHouse deactivates and marks as expired a side of a volume when the specified number of days has passed since the *last* file space was allocated on the side. StorHouse allocates no additional space for files on that side.
- **DEFAULT:** If you omit /EXPIRE, this modifier has no effect.
- **RESTRICTIONS:** This modifier does not apply to level F volume sets.

**/HOLD** Specifies a new value for the HOLD attribute for the volume set. Volumes having a HOLD attribute value of HOLD are selected for migration out of a library device after those having a value of NOHOLD. StorHouse will assign the new HOLD attribute value to volumes added to the volume set after the change but will not change the value for volumes already in the set.

- **FORMAT:** /HOLD or /NOHOLD

/HOLD indicates that volumes being added to the volume set will be assigned a HOLD attribute value of HOLD. /NOHOLD indicates that the volumes will be assigned a value of NOHOLD.

- **DEFAULT:** If you omit the modifier, the HOLD attribute is not changed.

**/LIBRARY** Specifies a new value for the volume set's library device attribute. StorHouse will allocate new volumes to the volume set from the free pool for the specified device. This free pool must contain the same media and recording type as the volume set. This modifier does not move volumes.

- **FORMAT:** /LIBRARY=Lxx or /LIBRARY=Fxx

where Lxx is the device identification code for the library-level device with the unit number xx (for example, L00), and Fxx is the second, third, and fourth character of a free pool volume set name (for example, F00). This free pool will be used for subsequent allocations to the volume set.

- **DEFAULT:** If you omit /LIBRARY, the volume set's library device attribute is not changed.
- If you specify the modifier without a device specification, the system uses the value of the DEFAULT\_LD system parameter as the default device.
- **RESTRICTIONS:**
  - All parameter modifiers are mutually exclusive. You can specify only one in each command.
  - The specified library device must support the media that compose the volume set.

**/LIMIT** Specifies the maximum number of bytes that this volume set is allowed to contain. If the LIMIT is not zero, the system automatically rounds this value up to the maximum volume size for the medium. A /LIMIT of 0 indicates that the maximum size is not limited.

Note that StorHouse bases /LIMIT calculations on the maximum size of a volume for the media type. Some actual volume sizes may be smaller. Therefore, although the volume set's size may fall short of its /LIMIT, the volume set may not be allowed to extend.

- **FORMAT:** /LIMIT=number\_of\_bytes or /LIMIT=0

The value for number\_of\_bytes can range from 0 up to 4294967295 (do not use commas in the specification). Use K to indicate 1,000-byte units, M to indicate 1,000,000-byte units, and G to indicate 1,000,000,000-byte units. If you do not specify K, M, or G, the number defaults to 1-byte units.

- **DEFAULT:** If you omit /LIMIT, the LIMIT attribute of the volume set is not changed.
- **RESTRICTIONS:** If the value of /LIMIT is not 0, it must be greater than or equal to the value of the volume set's /SIZE.

**/MEMO** Specifies up to 32 characters of descriptive text to replace the current text, if any, that you specified with the MOVE VSET command. The text might be used to describe the new location of a volume set that has been moved, such as a shelf number. You must enclose the field in quotes if you want to enter special characters or do not want to have lowercase characters translated to uppercase characters.

The SHOW VSET command displays the memo for the first volume in the volume set. If there are no volumes in the volume set, the memo displays as blank.

- **FORMAT:** /MEMO=text

You can enter a maximum of 32 printable ASCII characters. If you specify no text (for example, /MEMO="" or /NOMEMO), any existing memo for the volume set is canceled.

- **DEFAULT:** If you omit /MEMO, this modifier has no effect.

**/REDUCE** Indicates that StorHouse is to deallocate all empty volumes that have no space allocated to file sets from the volume set. StorHouse places the deallocated volumes in the free pool for the library where each volume resides. Unlike /RELEASE, /REDUCE retains the volume set definition if the volume set size becomes zero (all volumes in the volume set were deallocated).

- **FORMAT:** /REDUCE
- **DEFAULT:** If you omit /REDUCE, other modifiers control any changes to volume set storage.

**/RELEASE** Indicates that StorHouse is to deallocate from the volume set all empty volumes that have no space allocated to file sets. All deallocated volumes are placed in the free pool of empty volumes in the library in which each is resident. If the system deallocates all volumes from the set (the volume set size becomes zero), the system removes the volume set.

- **FORMAT:** /RELEASE



- **DEFAULT:** If you omit /RELEASE, other modifiers control any changes to volume set storage.

**/SIZE** Specifies the number of bytes in the volume set. If the size is not zero, the system rounds the size up to the nearest integer multiple of a physical volume size.

Note that StorHouse bases /SIZE calculations on the maximum size of a volume for the media type. Some actual volume sizes may be smaller. Therefore, although the volume set may fall short of its /SIZE, the volume set may not be allowed to extend.

If the value of /SIZE is larger than the current size of the volume set, the system adds volumes to the set until the desired size is reached. If the value is smaller, the system releases empty volumes to the free pool, one volume at a time. Empty volumes are released until the size of the volume set is reduced to (but not less than) the desired size, or until there are no more empty volumes. If the system cannot reduce the set to the desired size, it releases any empty volumes it can and then returns an error response.

- **FORMAT:** /SIZE=number\_of\_bytes

The value for number\_of\_bytes can range from 0 up to 4294967295 (do not use commas in the specification). Use K to indicate 1,000-byte units, M to indicate 1,000,000-byte units, and G to indicate 1,000,000,000-byte units. If you do not specify K, M, or G, the number defaults to 1-byte units.

- **DEFAULT:** If you omit /SIZE, the size attribute is not changed, or changes are controlled by other modifiers.
- **RESTRICTIONS:** The value of /SIZE (rounded up) must be less than or equal to the value of the LIMIT attribute for the volume set.

## Examples

- To specify that the maximum number of bytes that USERVSET can contain is not limited, enter:

```
? SET VSET USERVSET /LIMIT=0
```

This command changes the volume set's previous value for /LIMIT.

- To specify a value of 9 for the /CYCLE parameter modifier for the volume set USERVSET, enter:

```
? SET VSET USERVSET /CYCLE=9
```

Nine days after the last file space is allocated on a volume side, StorHouse deactivates the first side of the volume and activates the second side.

The new value for /CYCLE becomes effective only for volumes added to USERVSET after this SET VSET command is executed. The new value does not apply to volumes that are already members of USERVSET.

The values for /CYCLE, /DEACTIVATE, and /EXPIRE must be changed on separate SET VSET commands. Therefore, if USERVSET's /DEACTIVATE and /EXPIRE values also require modification, you must execute two more SET VSET commands that specify the new values for these parameters.

- To specify the comment "Rack 4" for a volume set's location, enter:

```
? SET VSET USERVSET /MEMO="Rack 4"
```

- To change the default destination backup volume set and file set for files in the primary volume set ACCTS00, enter:

```
? SET VSET ACCTS00 /BKPVSET=BACCTS00 /BKPFSET=BACCTS00
```

- To use the free pool volume set .F00MEA for subsequent allocations to volume set VSET1, enter:

```
? SET VSET VSET1 /LIBRARY=F00
```

# SHOW ACCOUNT

The SHOW ACCOUNT command displays user account information.

## Format

SHOW ACCOUNT <aid>

| COMMAND FORMAT SUMMARY         |                            |                       |                      |                        |                |
|--------------------------------|----------------------------|-----------------------|----------------------|------------------------|----------------|
| COMMAND PARAMETER, OR MODIFIER | REQUIRED COMMAND PRIVILEGE | REQUIRED GROUP ACCESS | REQUIRED FILE ACCESS | MINIMUM ACCOUNT ACCESS | DEFAULT        |
| SHOW ACCOUNT                   | SHOW or ACCOUNT            | -                     | -                    | -                      | -              |
| aid                            | -                          | -                     | -                    | -                      | Own account id |
| (own account)                  | -                          | -                     | -                    | -                      | (Default)      |
| (any account)                  | -                          | -                     | -                    | SHOA                   | -              |
| /BRIEF                         | -                          | -                     | -                    | -                      | /BRIEF         |
| /DISABLED                      | -                          | -                     | -                    | -                      | -              |
| /ENABLED                       | -                          | -                     | -                    | -                      | -              |
| /FSET=...                      | -                          | -                     | -                    | -                      | -              |
| /FULL                          | -                          | -                     | -                    | -                      | -              |
| /GROUP=...                     | -                          | -                     | -                    | -                      | -              |
| /LASTACCESS                    | -                          | -                     | -                    | -                      | -              |
| /PRIVILEGE=...                 | -                          | -                     | -                    | -                      | -              |
| /RIGHTS                        | -                          | -                     | -                    | -                      | -              |
| /SINCE=...                     | -                          | -                     | -                    | -                      | -              |
| /SET=...                       | -                          | -                     | -                    | -                      | -              |

## Description

SHOW ACCOUNT displays the account identification codes and other account information of accounts selected for display.

Specifying modifiers selects items of information to be displayed and/or accounts to be included. Specifying a value for a modifier selects accounts that have the specified value. Specifying multiple modifiers with values selects accounts that have all specified values.

/BRIEF is the default display.

## Parameters

**aid** Specifies the account identification code (aid) of the account for which information is to be displayed.

- **FORMAT:**
  - aid
  - partial\_aid\*
  - \*
- **DEFAULT:** If you omit aid, the system uses your own account.
- **ACCESS REQUIREMENTS:** In addition to SHOW, you must have SHOACCOUNT or ANYACCOUNT privilege to specify an account other than your own.

## Parameter Modifiers

**/BRIEF** Displays the default access group, the default rights, and last access date and time for the account. /NOBRIEF indicates that the above information is not to be displayed unless selected by other modifiers.

- **FORMAT:** /BRIEF or /NOBRIEF
- **DEFAULT:** /BRIEF
- **RESTRICTIONS:** /FULL overrides /BRIEF.

**/DISABLED** Indicates that only disabled accounts will be displayed.

- **FORMAT:** /DISABLED
- **DEFAULT:** No /DISABLED modifier.

**/ENABLED** Indicates that only enabled accounts will be displayed.

- **FORMAT:** /ENABLED
- **DEFAULT:** No /ENABLED modifier.

**/FSET** Selects for display accounts with the specified file set name as their default file set and displays the default file set name for the account.

- **FORMAT:** /FSET=fset\_name or /FSET
- **DEFAULT:** If you do not specify /FSET, the default is not to select accounts by file set name and not to display the default file set name (unless another modifier controls the display of the name).

If you specify /FSET without the fset\_name, the default is to display the file set name and to select accounts with any file set name.

**/FULL** Displays all available information for the account.

- aid
- groupname
- vset\_name
- fset\_name
- last\_access\_date/time
- privilege(s)
- rights
- **FORMAT:** /FULL
- **DEFAULT:** If you omit /FULL, the command displays the information displayed for /BRIEF or for another modifier, if specified.
- **RESTRICTIONS:** /FULL overrides all other display selection modifiers.
- **PRIVILEGE:** Requires all privileges required by the individual display selection modifiers that it encompasses.
- **ACCESS REQUIREMENTS:** Requires all access types required by the account for which it is displaying information.

**/GROUP** Selects for display accounts with the specified group name as their default access group and displays the default group name for the account.

- **FORMAT:** /GROUP=groupname or /GROUP
- **DEFAULT:** If you omit /GROUP, the default is not to select accounts by group and not to display the default group name (unless another modifier controls the display of the group name).

If you specify /GROUP without the groupname, the default is to select all group names.

- /LASTACCESS** Displays the date and time of the last signon to this account.
- **FORMAT:** /LASTACCESS
  - **DEFAULT:** If you omit /LASTACCESS, the display of the last sign-on date and time is controlled by other modifiers.
- /PRIVILEGE** Selects for display accounts with the specified privileges and all the privileges assigned to those accounts. If you specify one or more privileges, the command selects all of the specified accounts that have one or more of the privileges. If you specify only one privilege, the parentheses are not required.
- **FORMAT:**
    - /PRIVILEGE=(privilege<,...>)
    - /PRIVILEGE
  - **DEFAULT:** If you omit /PRIVILEGE, privileges are not displayed, unless the display of privileges is enabled by other modifiers.
- /RIGHTS** Displays the default access rights (access types) to the account's default group. /NORIGHTS inhibits the display of these rights.
- Access rights are displayed as follows:
- RIGHTS=RWD
- R indicates read access.
  - W indicates write access.
  - D indicates delete access.
  - A null in place of an R, W, or D indicates no access for that type.
  - The word none indicates that the account has no default access to the default group.
  - **FORMAT:**
    - /RIGHTS=<<R><:<W><:<D>>>
    - /NORIGHTS
  - **DEFAULT:** If you omit /RIGHTS, the display of default access rights is controlled by other modifiers (see /BRIEF and /FULL).
- /SINCE** Selects for display accounts that were accessed since the specified date and time.
- **FORMAT:** /SINCE=absolute\_time or /SINCE=delta\_time
- For a full description of the absolute time and delta time data fields, see Appendix B, "Data Field, Parameter, and Modifier Definitions."

*Absolute time* specifies a calendar date and clock time. Specify absolute time as:

```
<<day>-<month>-<year>><:<hour><:<minute><:<second>>>
```

If you specify /SINCE without a day, month or year, the current day, month or year, respectively, is the default. If you do not specify an hour, minute or second, the subfield defaults to zero.

*Delta time* specifies the amount of time since or before an event. Specify delta time as (the leading D is required):

```
D<days-><hours<:<minutes<:<seconds>>>
```

The default for any field that is not specified is zero.

- **FORMAT RESTRICTIONS:** You must specify an absolute time or a delta time.
- **DEFAULT:** If you omit /SINCE, the system does not select the accounts based on time of last access.

**/VSET** Selects for display accounts with the specified volume set name as their default volume set and displays the default volume set name for the account.

- **FORMAT:** /VSET=vset\_name or /VSET
- **DEFAULT:** If you omit /VSET, the default is not to select accounts by volume set name and not to display the default volume set name (unless another modifier controls the display of the name).

If you specify /VSET without the vset\_name, the default is to select all volume set names.

## Examples

- To display all available information for your account (because you are executing the command), enter:

```
? SHOW ACCOUNT /FULL
```

The following information displays:

```
ACCOUNT=USER1 GROUP=USERGRP VSET=USERVSET
FSET=USERFSET LASTACCESS=29-MAR-2000:10:34:00
PRIVILEGE=(ALLPRIVILEGE, SHOACCOUNT) RIGHTS=RWD
```

- To display all information available for the account USER2, enter:

```
? SHOW ACCOUNT USER2 /FULL
```

The following information displays:

```
ACCOUNT=USER2 GROUP=USERGRP VSET=USERVSET
FSET=USERFSET LASTACCESS=30-MAR-2000:08:06:05
PRIVILEGE=(GET,PUT) RIGHTS=RW
```

- To display the default access group, default volume set and file set, last access date and time, and default rights for all accounts whose default file set and volume set are USERFSET and USERVSET, respectively, enter:

```
? SHOW ACCOUNT * /FSET=USERFSET /VSET=USERVSET
```

The following information displays:

```
ACCOUNT=USER1 GROUP=USERGRP VSET=USERVSET
FSET=USERFSET LASTACCESS=29-MAR-2000:10:34:00 RIGHTS=RWD
```

```
ACCOUNT=USER2 GROUP=USERGRP VSET=USERVSET
FSET=USERFSET LASTACCESS=30-MAR-2000:08:06:05 RIGHTS=RW
```

Accounts with either the default file set USERFSET or the default volume set USERVSET, but not both, do not display.

- To list accounts that were accessed since 8 a.m., March 29, 2000:

```
? SHOW ACCOUNT * /SINCE=29-MAR-2000:08:00:00
```

The following information displays:

```
ACCOUNT=USER1 GROUP=USERGRP LASTACCESS=29-MAR-
2000:10:34:00 RIGHTS=RWD
```

```
ACCOUNT=USER2 GROUP=USERGRP LASTACCESS=30-MAR-
2000:08:06:05 RIGHTS=RW
```



# SHOW CONFIGURATION

The SHOW CONFIGURATION command displays configuration information.

## Format

SHOW CONFIGURATION

| COMMAND FORMAT SUMMARY         |                            |                       |                      |                        |         |
|--------------------------------|----------------------------|-----------------------|----------------------|------------------------|---------|
| COMMAND PARAMETER, OR MODIFIER | REQUIRED COMMAND PRIVILEGE | REQUIRED GROUP ACCESS | REQUIRED FILE ACCESS | MINIMUM ACCOUNT ACCESS | DEFAULT |
| SHOW CONFIGURATION             | SHOW, OPERATOR, or SYSTEM  | -                     | -                    | -                      | -       |
| /DEVICE                        | -                          | -                     | -                    | -                      | -       |
| /HARDWARE                      | -                          | -                     | -                    | -                      | -       |
| /MEDIA                         | -                          | -                     | -                    | -                      | -       |
| /SOFTWARE                      | -                          | -                     | -                    | -                      | -       |

## Description

SHOW CONFIGURATION displays system and StorHouse configuration information, including software, hardware, devices, and media. If no specific information is requested, all configuration information is displayed.

## Command Modifiers

**/DEVICE** Displays information about StorHouse devices.

- **FORMAT:** /DEVICE
- **DEFAULT:** If none of /DEVICE, /HARDWARE, /MEDIA, and /SOFTWARE is specified, all system information is displayed.

**/HARDWARE** Displays information about system hardware.

- **FORMAT:** /HARDWARE
- **DEFAULT:** If none of /DEVICE, /HARDWARE, /MEDIA, and /SOFTWARE is specified, all system information is displayed.

**/MEDIA** Displays information about StorHouse media.

- **FORMAT:** /MEDIA
- **DEFAULT:** If none of /DEVICE, /HARDWARE, /MEDIA, and /SOFTWARE is specified, all system information is displayed.

/SOFTWARE Displays information about system and StorHouse software.

- **FORMAT:** /SOFTWARE
- **DEFAULT:** If none of /DEVICE, /HARDWARE, /MEDIA, and /SOFTWARE is specified, all system information is displayed.

## Example

- To display all system configuration information, enter:

```
? SHOW CONFIGURATION
```

The system displays the following information:

```
SOFTWARE=OS SYSTEM=Linux RELEASE=2.6.18-238.9.1.el5
```

```
VERSION="#1 SMP Tue Apr 12 18:10:13 EDT 2011"
```

```
SOFTWARE=StorHouse/SM RELEASE=5.6
```

```
SOFTWARE=VRAM RELEASE=1.7_KRA
```

```
SOFTWARE=StorHouse/RM RELEASE=3.4HARDWARE=SYSTEM CPUS=8
```

```
HARDWARE=CPU0 MODEL="Intel(R) Xeon(R) CPUE5410 @ 2.33GHz"
```

```
HARDWARE=CPU1 MODEL="Intel(R) Xeon(R) CPUE5410 @ 2.33GHz"
```

```
HARDWARE=CPU2 MODEL="Intel(R) Xeon(R) CPUE5410 @ 2.33GHz"
```

```
HARDWARE=CPU3 MODEL="Intel(R) Xeon(R) CPUE5410 @ 2.33GHz"
```

```
HARDWARE=CPU4 MODEL="Intel(R) Xeon(R) CPUE5410 @ 2.33GHz"
```

```
HARDWARE=CPU5 MODEL="Intel(R) Xeon(R) CPUE5410 @ 2.33GHz"
```

```
HARDWARE=CPU6 MODEL="Intel(R) Xeon(R) CPUE5410 @ 2.33GHz"
```

```
HARDWARE=CPU7 MODEL="Intel(R) Xeon(R) CPUE5410 @ 2.33GHz"
```

```
HARDWARE=MEMORY SIZE=8038580KB
```

```
DEVICE=F00 TYPE=FILESYSTEM SIZE=252299026KB
```

```
DEVICE=F01 TYPE=FILESYSTEM SIZE=252299026KB
```

DEVICE=F02 TYPE=FILESYSTEM SIZE=252299026KB  
DEVICE=F03 TYPE=FILESYSTEM SIZE=252299026KB  
DEVICE=F04 TYPE=FILESYSTEM SIZE=74633371KB  
DEVICE=F05 TYPE=FILESYSTEM SIZE=74633371KB  
DEVICE=F06 TYPE=FILESYSTEM SIZE=74633371KB  
DEVICE=F07 TYPE=FILESYSTEM SIZE=74633371KB  
DEVICE=L00 MFG=Qualstar MODEL=QUALSTAR SLOTS=155  
FIRMWARE=3262  
SERIAL="07011241"  
DEVICE=L00A00  
DEVICE=L00D00 MFG=IBM MODEL=IBMLTO FIRMWARE=97F0  
SERIAL="1310181910"  
DEVICE=L00D01 MFG=IBM MODEL=IBMLTO FIRMWARE=97F0  
SERIAL="1310207418"  
DEVICE=L00D02 MFG=IBM MODEL=IBMLTO FIRMWARE=97F0  
SERIAL="9310014136"  
DEVICE=L00E00 SLOTS=10  
DEVICE=N00 PROTOCOL=TCP/IP  
DEVICE=N02 PROTOCOL=DIRECT\_CONNECT  
DEVICE=S00  
MEDIA=MIA DESC="Unix file system disks"  
MEDIA=NAA DESC="TCP network"  
MEDIA=NCA DESC="SGI Direct Connect network"  
MEDIA=TFD DESC="LTO4 800GB Ultrium tape cartridge"  
MEDIA\_SIZE=799994281KB MEDIA\_LIFE=10000  
MEDIA=TFZ DESC="LTO Ultrium 100-pass cleaning tape cartridge"

## SHOW DEVICE

The SHOW DEVICE command displays the device status and, if applicable, mode and supported media of a StorHouse device.

### Format

SHOW DEVICE did

| COMMAND FORMAT SUMMARY         |                            |                       |                      |                        |            |
|--------------------------------|----------------------------|-----------------------|----------------------|------------------------|------------|
| COMMAND PARAMETER, OR MODIFIER | REQUIRED COMMAND PRIVILEGE | REQUIRED GROUP ACCESS | REQUIRED FILE ACCESS | MINIMUM ACCOUNT ACCESS | DEFAULT    |
| SHOW DEVICE                    | SHOW or OPERATOR           | -                     | -                    | -                      | -          |
| /FULL                          | -                          | -                     | -                    | -                      | -          |
| did                            | -                          | -                     | -                    | -                      | (Required) |

### Description

SHOW DEVICE displays a device's status and, if applicable, the device mode and kinds of media it supports.

A device status can be:

- UP – Available for use.
- DOWN – Not available for use.
- GOING\_DOWN – Device is completing its current work, but the system will assign no additional work to it. The status changes to DOWN when the current work completes.
- COMING\_UP – Device is being prepared for operation. The status changes to UP when the device is available for use.

A device mode can be:

- ALLOCATED – Device is allocated. (This mode is reserved for use by SGI customer support personnel.)
- READ\_ONLY – Device is accessible for reading only.

- **INACCESSIBLE** – Device is inaccessible because the robot that accesses it is unavailable. This message pertains only to drives in an STK SL8500 library.
- **INITIALIZING** – Device is being initialized (using the INITIALIZE DEVICE command).
- **INITIALIZED** – Device initialization is complete.
- **MAINTENANCE** – Device is unavailable for use.
- **NEEDS\_CLEANING** – Device needs cleaning.
- **WRITE\_LOCKED** – Device is writelocked.

If none of the modes apply to the device, the command does not display mode information. If one or more modes apply to a device, the command displays the information as follows:

```
MODES=(READ_ONLY)
```

If the device supports specific kinds of media, the command displays the supported media as follows:

```
MEDIA=(mmr:rw, mmr:rw,...)
```

where each `mmr` indicates a supported media type (`mm`) and recording type (`r`), and `rw` can be:

- **R** if the device can only read the medium;
- **W** if the device can only write the medium;
- **RW** if the device can read and write the medium.

If a library device is **DOWN**, all of its subunits are considered to be **DOWN**.

This command also displays a message in the output if your system administrator must recover a device. These messages are:

- **RECOVER\_DEVICE\_REQD** - run the RECOVER DEVICE command for a library device.
- **CATALOG\_DEVICE\_REQD** - run the CATALOG DEVICE command for a level F device.

## Parameters

**did** Specifies the device identifier (`did`) of the device for which you want to show information.

- **FORMAT** (the braces “`{ }`” are not part of the specification):

- {level}{unit\_number}{subunit\_type}{subunit\_number}
  - {level}{unit\_number}{subunit\_type}\*
  - {level}{unit\_number}\*
  - {level}{unit\_number}
  - {level}\*
  - \*
- Level consists of one character corresponding to a type of device or storage level. The valid levels are: F, L, S, and N, for fixed, library, shelf, and network, respectively.
  - Unit\_number consists of two hexadecimal characters where each physically separate device is assigned a unit\_number, starting at 00.
  - Subunit\_type consists of a single character that represents a type of device within a unit. The valid types are A, D, and E, for accessor, drive, and exchange station, respectively. Subunit\_type applies to level L only.
  - Subunit\_number consists of two hexadecimal characters and identifies a specific device or location within a unit.
- DEFAULT: None; you must specify this parameter.

## Command Modifier

**/FULL** Displays all available information for a device. For each level F device, /FULL adds the following fields to the default display: VSET=vset\_name, DIRECTORY=directory, and SIZE=size.

- FORMAT: /FULL
- DEFAULT: If you omit /FULL, the command displays the information listed in the command description.
- PRIVILEGE: None.

## Examples

- To display the status and supported media of library device 00, enter:

```
? SHOW DEVICE L00
```

The system displays the following:

```
DEVICE=L00 STATUS=UP/RECOVER_DEVICE_REQD
```

With the RECOVER\_DEVICE\_REQD message, StorHouse is instructing your system administrator to run the RECOVER DEVICE command for library device L00.

If the library device is DOWN, all of its subunits are considered to be DOWN.

- To display the status of accessor 1 in library device 00, enter:

```
? SHOW DEVICE L00A01
```

The system displays the following:

```
DEVICE=L00A01 STATUS=UP
```

- To display the status and supported media of the network device N00, enter:

```
? SHOW DEVICE N00
```

The system displays the following:

```
DEVICE=N00 STATUS=UP MEDIA=(NAA:RW)
```

- To display the status and supported media of all drives in library L00, enter:

```
? SHOW DEVICE L00D*
```

The system displays the following:

```
DEVICE=L00D00 STATUS=UP MEDIA=(OEA:RW, OEB:RW)
DEVICE=L00D01 STATUS=UP MEDIA=(OEA:RW, OEB:RW)
DEVICE=L00D02 STATUS=UP MEDIA=(OEA:RW, OEB:RW)
DEVICE=L00D03 STATUS=UP MEDIA=(OEA:RW, OEB:RW)
```

- To display the status and supported media of all devices, enter:

```
? SHOW DEVICE *
```

The system displays a response like the following:

```
DEVICE=F00 STATUS=UP MEDIA=(MDA:RW)
DEVICE=F01 STATUS=UP MEDIA=(MDA:RW)
DEVICE=L00 STATUS=UP
DEVICE=L00A00 STATUS=UP
DEVICE=L00A01 STATUS=UP
DEVICE=L00D00 STATUS=UP MEDIA=(OEA:RW, OEB:RW)
DEVICE=L00D01 STATUS=UP MODES=(READ_ONLY) MEDIA=(OEA:RW, OEB:RW)
DEVICE=L00E00 STATUS=UP
DEVICE=L01 STATUS=UP
DEVICE=L01A00 STATUS=UP
DEVICE=L01D00 STATUS=UP MEDIA=(TBB:RW, TBZ:R)
DEVICE=L01D01 STATUS=UP MEDIA=(TBB:RW, TBZ:R)
DEVICE=L01E00 STATUS=UP
DEVICE=N00 STATUS=UP MEDIA=(NAA:RW)
DEVICE=N01 STATUS=UP MEDIA=(NCA:RW)
```

```
DEVICE=S00 STATUS=UP
DEVICE=S01 STATUS=UP
```

- To display all information for device F04, enter:

```
? SHOW DEVICE F04 /FULL
```

```
DEVICE=F04 STATUS=UP MEDIA=(MEA:RW) VSET=.F00MEA
DIRECTORY=none SIZE=9989582KB
```

For level F devices, the display includes information about the volume set, directory, and size of the device. In this example, F04 is allocated to the free pool volume set .F00MEA.



# SHOW FILE

The SHOW FILE command displays information for a file version.

## Format

SHOW FILE filename

| COMMAND FORMAT SUMMARY         |                            |                       |                      |                        |                     |
|--------------------------------|----------------------------|-----------------------|----------------------|------------------------|---------------------|
| COMMAND PARAMETER, OR MODIFIER | REQUIRED COMMAND PRIVILEGE | REQUIRED GROUP ACCESS | REQUIRED FILE ACCESS | MINIMUM ACCOUNT ACCESS | DEFAULT             |
| SHOW FILE                      | SHOW or FILE               | -                     | -                    | -                      | -                   |
| /BRIEF                         | -                          | -                     | -                    | -                      | -                   |
| /EXTENT                        | -                          | -                     | -                    | -                      | -                   |
| /FULL                          | -                          | -                     | -                    | -                      | -                   |
| /NAME                          | -                          | -                     | -                    | -                      | -                   |
| filename                       | -                          | R                     | R                    | -                      | (Required)          |
| /ARCHIVE_EXISTS                | -                          | -                     | -                    | -                      | -                   |
| /BACKUP_EXISTS                 | -                          | -                     | -                    | -                      | -                   |
| /BEFORE=...                    | -                          | -                     | -                    | -                      | -                   |
| /BKP_ATTR                      | -                          | -                     | -                    | -                      | -                   |
| /BUFFERED                      | -                          | -                     | -                    | -                      | -                   |
| /DAMAGED                       | -                          | -                     | -                    | -                      | -                   |
| /DELETED                       | -                          | -                     | -                    | -                      | -                   |
| /DIRECTORY=...                 | -                          | -                     | -                    | -                      | /DIRECTORY= PRIMARY |
| /EXPIRED                       | -                          | -                     | -                    | -                      | -                   |
| /FSET=...                      | -                          | -                     | -                    | -                      | -                   |
| /GROUP=...                     | SETGROUP                   | R                     | -                    | -                      | Current default     |
| /LEVEL=...                     | -                          | -                     | -                    | -                      | -                   |
| /MAXEXTENTS=...                | -                          | -                     | -                    | -                      | -                   |
| /MAXSIZE=...                   | -                          | -                     | -                    | -                      | -                   |
| /MINEXTENTS=...                | -                          | -                     | -                    | -                      | -                   |
| /MINSIZE=...                   | -                          | -                     | -                    | -                      | -                   |
| /ORDER=...                     | -                          | -                     | -                    | -                      | /ORDER= NATURAL     |
| /PASSWORDS=...                 | -                          | -                     | -                    | -                      | -                   |
| /PHYSICAL                      | -                          | -                     | -                    | -                      | -                   |
| /PRIMARY_EXISTS                | -                          | -                     | -                    | -                      | -                   |

| COMMAND FORMAT SUMMARY (Continued) |   |   |   |   |            |
|------------------------------------|---|---|---|---|------------|
| /REPLICA_EXISTS                    | - | - | - | - | -          |
| /RESIDENT                          | - | - | - | - | -          |
| /RETENTION                         | - | - | - | - | -          |
| /RPL_CLASS                         | - | - | - | - | -          |
| /SAFE_COPIES=...                   | - | - | - | - | -          |
| /SINCE=...                         | - | - | - | - | -          |
| /UNUSED=...                        | - | - | - | - | -          |
| /USED=...                          | - | - | - | - | -          |
| /VERSION=...                       | - | - | - | - | /VERSION=0 |
| /VOLUME=...                        | - | - | - | - | -          |
| /VSET=...                          | - | - | - | - | -          |

## Description

SHOW FILE produces one display record for each selected file version. The default display record contains the following information:

- FILE=file\_name
- GROUP=group\_name
- VERSION=relative\_version\_number
- FID=system\_identifier.file\_number

The /BRIEF, /EXTENT, and /FULL modifiers add more information to the default display.

The default display lists records alphabetically by group name and file name, and then from most recent to oldest version (if more than one version is displayed). If /EXTENT is specified, the command displays extents in highest to lowest extent sequence number order. You can override the default display order by specifying /ORDER=ANY.

At the end of the SHOW FILE information, StorHouse lists the total number of displayed files in the format:

Total files displayed=nnnn

where nnnn is expressed in decimal digits.

**Selecting files for display.** You can use the following parameter modifiers to select files for display:

|                 |                 |              |
|-----------------|-----------------|--------------|
| /ARCHIVE_EXISTS | /DIRECTORY      | /SAFE_COPIES |
| /BACKUP_EXISTS  | /FSET           | /SINCE       |
| /BEFORE         | /GROUP          | /UNUSED      |
| /BKP_ATTR       | /LEVEL          | /VERSION     |
| /BUFFERED       | /PHYSICAL       | /VOLUME      |
| /DAMAGED        | /PRIMARY_EXISTS | /VSET        |
| /DELETED        | /RESIDENT       | /EXPIRED     |
| /RPL_CLASS      | /MAX_EXTENTS    | /MAXSIZE     |
| /REPLICA_EXISTS | /RETENTION      | /MINEXTENTS  |
| /MINSIZE        | /USED           |              |

If you specify a value for one of the modifiers in the preceding list, SHOW FILE selects only files matching that value. If you specify multiple modifiers, SHOW FILE selects only files matching all specified values.

Some modifiers are mutually exclusive (that is, you cannot specify them together in a single command).

## Parameters

**filename** Specifies the StorHouse file for which information will be displayed.

- **FORMAT:** filename

You can use multiple wildcards anywhere in the filename specification.

- **DEFAULT:** None; you must specify this parameter.
- **ACCESS REQUIREMENTS:** Read access to the file and group.

## Command Modifiers

**/BRIEF** Displays the following fields for each file version:

- **FILE=**file\_name
- **GROUP=**group\_name
- **VERSION=**relative\_version\_number
- **FID=**system\_identifier.file\_number

- DATE=creation\_date (always for the primary)
- SIZE=number\_of\_bytes
- FORMAT: /BRIEF
- DEFAULT: If you omit /BRIEF, the display is controlled by other modifiers.
- RESTRICTIONS: /FULL overrides /BRIEF.

/EXTENT Displays the following extent information for each selected extent of the specified file version.

| Extent Field    | Definition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EXTENT_NUMBER   | Extent sequence number.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| EXTENT_SID      | Extent system identifier.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| EXTENT_DATE     | Date and time the extent was first created.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| EXTENT_WRITTEN  | Date and time the extent was written to its current location. For example, if StorHouse initially creates an extent in the performance buffer, the extent's EXTENT_DATE and EXTENT_WRITTEN are the same. If StorHouse subsequently writes back the extent to level L, EXTENT_DATE remains the same, but EXTENT_WRITTEN changes to the time the new copy was written to level L.                                                                                                                                                                                                                                                 |
| EXTENT_REVISION | Revision number of the file version for which the extent was created. An extent can be used in more than one revision.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| EXTENT_SIZE     | Size of the extent in bytes.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| EXTENT_LOCATION | VID of the volume where the extent resides.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| EXTENT_LEVEL    | Storage level that contains the resident file set for the extent. Valid values are F, L, and S. (A value of F indicates a level F file set, not the performance buffer.)                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| EXTENT_STATUS   | Status of the extent. Valid values are: <ul style="list-style-type: none"> <li>• BUFFERED - indicates there is a copy of the extent in the performance buffer.</li> <li>• LAST - indicates the extent is the last extent of a revision or checkpoint.</li> <li>• NEW - indicates the extent has not been copied from the performance buffer to its resident file set.</li> <li>• NONE - indicates none of the other statuses.</li> <li>• UPDATE - indicates the extent was created in a VRAM update operation.</li> <li>• WRITEBACK_DISABLED - indicates the extent cannot be backed up to its destination file set.</li> </ul> |

| Extent Field          | Definition                                                                                                                                                                                                                                                               |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EXTENT_MF             | Migration factor of the extent. This field is valid only for extents in the performance buffer. For non-performance buffer extents, EXTENT_MF is displayed as "none."                                                                                                    |
| EXTENT_RETENTION_DATE | Date until which the system will attempt to retain the extent in the performance buffer. <ul style="list-style-type: none"> <li>A value of "none" indicates no retention date.</li> <li>A value of "expired" indicates that the retention period has expired.</li> </ul> |

You can use /EXTENT with the default display, with /BRIEF, or with /FULL.

At the end of the display record, /EXTENT adds the following:

EXTENTS\_DISPLAYED=number\_of\_extents\_displayed

- FORMAT: /EXTENT
- DEFAULT: If you omit /EXTENT, the command does not add extent information.

/FULL Adds the following fields to the default display for each file version:

- REVISION=highest\_revision\_number.
- DIRECT\_REC=directory\_record\_number in the directory used by SHOW FILE. The value of DIRECT\_REC can range from 2 through 4294967295. The value for any one file version may differ for copies of the version in other directories.
- LASTACCESS=last\_access\_date/time the file version was read or written.
- MODIFIED\_DIR=last\_modification\_date/time of the directory entry for the specified file (for example, when a file was relocated).
- MODIFIED\_FILE=last\_modification\_date/time of the file's data (for example, the creation time of the last extent).
- BACKUP=backup\_date or "none".
- LIMIT=limit\_attribute (always 65536 for archive and backup files).
- PROTECTION=protection\_indicators.
- VTF=vtf\_attribute.
- ATF=atf\_attribute.
- ORGANIZATION=organization\_code. Valid values are:

- KEYED
  - KEYSEQUENTIAL
  - RECORD
  - SEQUENTIAL
  - STORHOUSE
  - VRAM (RECORD, KEYSEQUENTIAL, or KEYED file created before Release 3.0).
- FILE\_SYSTEM=file\_system\_code.
  - HOST\_TYPE=host\_type\_code.
  - FRAME\_VER=frame\_structure\_version.
  - FRAME\_SIZE=bytes\_per\_frame.
  - FRAME\_HDR=frame\_header\_size (in bytes).
  - RECORD\_HDR=record\_header\_size.
  - HOST\_UNIT=host\_data\_unit\_size.
  - MAX\_LENGTH=maximum\_record\_size.
  - RECORD\_COUNT=number\_of\_records (number of user records written; meaningful only for VRAM files).
  - ATTRIBUTES=attribute\_code. Valid values are:
    - 20 - Print format (machine carriage control).
    - 40 - Print format (ANSI carriage control).
    - 80 - Fixed record length).
  - ACCESSES=number\_of\_accesses.
  - EDC=edc\_code.
  - STATUS=status. Valid values are:
    - COMPLETE
    - PARTIAL
    - TRUNCATED.
  - DESCRIPTOR=flags. Valid values are:
    - ARCHIVED – current revision was archived.
    - BACKED\_UP – current revision was backed up.
    - CATALOGING – being cataloged.
    - DELETED – deleted.

- HARD\_DISABLED – hardware disabled.
  - NAMED – named file.
  - NOBACKUP – do not back up file version.
  - PENDING – file copy/transfer in progress.
  - SOFT\_DISABLED – software disabled.
  - REPLICATED – a replica of the current file version exists on another StorHouse system.
- VSET=vset\_name.
  - FSET=fset\_name.
  - RETENTION=retention\_attribute.
  - RPL\_CLASS=rpl\_class\_name.
  - EXTENT\_COUNT=number\_of\_extents (in version).

StorHouse identifies file and data record formats using the file type, the file system type, the host type, and the file's organization. See the *StorHouse Concepts and Facilities Manual* for definitions of these fields.

- FORMAT: /FULL
- DEFAULT: If you omit /FULL, the display is controlled by other modifiers.
- RESTRICTIONS: /FULL overrides /BRIEF.

/NAME Displays the file name in the format:

“filename” /GROUP=group\_name /VERSION=version\_number

The output of a SHOW FILE/NAME can be directed to a file and subsequently edited and used in other file-related commands such as DELETE.

- FORMAT: /NAME
- DEFAULT: If you omit /NAME, the command does not display the file name in the specified format.
- RESTRICTION: /NAME is mutually exclusive with /BRIEF, /EXTENT, and /FULL.

## Parameter Modifiers

/ARCHIVE\_EXISTS Selects files based on whether they have an archive copy. /NOARCHIVE\_EXISTS selects files that do not have an archive copy.

- FORMAT:
    - /ARCHIVE\_EXISTS
    - /NOARCHIVE\_EXISTS
  - DEFAULT: If you omit /ARCHIVE\_EXISTS, the system does not select files based on whether an archive copy exists.
  - RESTRICTION: Do not use /ARCHIVE\_EXISTS when displaying information for an archive file.
- /BACKUP\_EXISTS** Selects files based on whether they have a backup copy. /NOBACKUP\_EXISTS selects files that do not have a backup copy.
- FORMAT:
    - /BACKUP\_EXISTS
    - /NOBACKUP\_EXISTS
  - DEFAULT: If you omit /BACKUP\_EXISTS, the system does not select files based on whether a backup copy exists.
  - RESTRICTION: Do not use /BACKUP\_EXISTS when displaying information for a backup file.
- /BKP\_ATTR** Selects files based on whether their BACKUP attribute is set. /NOBKP\_ATTR selects files that do not have their BACKUP attribute set.
- FORMAT:
    - /BKP\_ATTR
    - /NOBKP\_ATTR
  - DEFAULT: If you omit /BKP\_ATTR, the system does not select files based on whether the BACKUP attribute is set.
  - RESTRICTION: Do not use /BKP\_ATTR when displaying information for a backup file.
- /BEFORE** Selects file versions with a creation date and time value that is the same as or earlier than a specified date and time. The version creation date and time value is the date and time the primary version was first created in StorHouse.
- FORMAT: /BEFORE=absolute\_time or /BEFORE=delta\_time
- For a full description of the absolute time and delta time data fields, see “Appendix B” of the *Command Language Reference Manual*.
- DEFAULT: If you omit /BEFORE and /SINCE, the system does not select files based on creation date and time.



- /BUFFERED** Selects files for display based on whether copies of all file extents reside in the performance buffer or are queued for upward migration to the performance buffer. **/NOBUFFERED** selects files that do not have copies of all extents in the performance buffer.
- **FORMAT:**
    - **/BUFFERED**
    - **/NOBUFFERED**
  - **DEFAULT:** If you omit **/BUFFERED**, the command does not select files based on whether they have copies of all extents in the performance buffer.
  - **RESTRICTIONS:** **/BUFFERED** is meaningful only for files in the **PRIMARY** directory.
- /DAMAGED** Selects files for display based on whether they are marked in the directory as damaged. Damaged files are files marked **PENDING**, **SOFT\_DISABLED**, or **HARD\_DISABLED**, or that are missing one or more extents, that is, marked as truncated or partial. **/DAMAGED** checks for problems with the file's directory information, not for problems with the physical media where the file resides.
- **FORMAT:**
    - **/DAMAGED**
    - **/NODAMAGED**
  - **DEFAULT:** If you omit **/DAMAGED**, the command does not select files based on whether they are damaged.
- /DELETED** Displays a list of files that are deleted, but not yet removed. If multiple deleted versions of the file exist, the most recently deleted version is version 0, and the previously deleted version is version -1, and so on.
- Note: Deleted file version numbers are not related to the version numbers assigned to files in their original directory. Deleted file versions correspond to the order that files were deleted rather than the order that they were created.
- **FORMAT:** **/DELETED**
  - **DEFAULT:** If you omit **/DELETED**, the command does not select deleted files.
  - **RESTRICTIONS:** **/DELETED** is mutually exclusive with **/PASSWORDS**.
- /DIRECTORY** Specifies the directory used to select files for display. If you specify **/DIRECTORY** and **/LEVEL**, the command only selects files that are listed in the specified directory and that reside on the specified storage level.

- FORMAT:
    - /DIRECTORY=ARCHIVE
    - /DIRECTORY=BACKUP
    - /DIRECTORY=PRIMARY
  - DEFAULT: /DIRECTORY=PRIMARY (only if you do not specify /VOLUME and /VSET)
  - RESTRICTIONS: /DIRECTORY is mutually exclusive with /VOLUME and /VSET.
- /EXPIRED** Selects for display file versions that are expired, that is, file versions that have a retention attribute and that retention period has passed.
- FORMAT: /EXPIRED
  - DEFAULT: If you omit /EXPIRED, the system does not select files based on whether they are expired.
- /FSET** Selects for display file versions located in the specified file set.
- FORMAT: /FSET=fset\_name
  - FORMAT RESTRICTIONS: Wild cards are not allowed in the file set name.
  - DEFAULT: If you omit /FSET, the system does not use the file set name to select files.
  - RESTRICTIONS:
    - If you specify /FSET, you must also specify /VSET.
    - The performance buffer file set may not be specified.
- /GROUP** Specifies a file access group name and, optionally, the group's read password.
- FORMAT:
    - /GROUP=groupname<:readpw>
    - /GROUP=partial\_groupname\*
    - /GROUP=\*
  - DEFAULT: If you omit /GROUP, the default is your default file access group.
  - ACCESS REQUIREMENTS: Read access to the group.
- You must specify the read password unless:
- The group is not protected by a read password.

- Your privilege bypasses read access password checks.
- Your default access to the group includes read access.
- PRIVILEGE: You must have SETGROUP privilege to specify any group except your default group.

**/LEVEL** Selects for display files whose resident file sets are located on the specified storage level.

SHOW FILE /LEVEL bases selection on a file's destination, which is not necessarily its current physical location. For files that have already been backed up, SHOW FILE displays the level where the volume containing the resident copy of the file is located.

For files that are still in the performance buffer, SHOW FILE bases selection on the current level of the volume that will contain the resident copy of the file after a backup.

- **FORMAT:**
  - /LEVEL=F for fixed storage
  - /LEVEL=L for library storage
  - /LEVEL=S for shelf storage
- **DEFAULT:** If you omit /LEVEL, the system does not use the level for selection.
- **RESTRICTIONS:** /LEVEL is mutually exclusive with /VOLUME and /VSET.

**/MAXEXTENTS** Selects for display files that have at most the specified number of extents.

- **FORMAT:** /MAXEXTENTS=number\_of\_extents
- **DEFAULT:** If you omit /MAXEXTENTS, the system does not select files based on the number of extents they have.

**/MAXSIZE** Selects for display files that are no larger than the specified size.

- **FORMAT:** /MAXSIZE=number\_of\_bytes
- The value for number\_of\_bytes can range from 0 up to 4,294,967,295. (Do not use commas in the specification.) Use K to indicate 1,000-byte units, M to indicate 1,000,000-byte units, and G to indicate 1,000,000,000-byte units. If you do not specify K, M, or G, the number defaults to 1-byte units.
- **DEFAULT:** If you omit /MAXSIZE, the system does not select files based on file size.

**/MINEXTENTS** Selects for display files that have at least the specified number of extents.

- **FORMAT:** /MINEXTENTS=number\_of\_extents

- **DEFAULT:** If you omit `/MINEXTENTS`, the system does not select files based on the number of extents they have.
- `/MINSIZE` Selects for display files that are at least as large as the specified size.
- **FORMAT:** `/MINSIZE=number_of_bytes`  
  
The value for `number_of_bytes` can range from 0 up to 4,294,967,295 (do not use commas in the specification). Use `K` to indicate 1,000-byte units, `M` to indicate 1,000,000-byte units, and `G` to indicate 1,000,000,000-byte units. If you do not specify `K`, `M`, or `G`, the number defaults to 1-byte units.
  - **DEFAULT:** If you omit `/MINSIZE`, the system does not select files based on file size.
- `/PHYSICAL` Selects files for display based on whether copies of all file extents physically reside in the performance buffer. Files that are queued for upward migration (transfer to the performance buffer) do not qualify. `/PHYSICAL` is a qualifier for the `/BUFFERED` modifier.
- **FORMAT:** `/PHYSICAL`
  - **DEFAULT:** If you omit `/PHYSICAL`, the command does not select files based on whether copies of all file extents physically reside in the performance buffer.
  - **RESTRICTIONS:**
    - `/PHYSICAL` is meaningful only for files in the `PRIMARY` directory.
    - `/PHYSICAL` must be specified in combination with `/BUFFERED`. Otherwise StorHouse ignores it.
- `/REPLICA_EXISTS` Selects files that have/don't have a replica copy.
- **FORMAT:**
    - `/REPLICA_EXISTS`
    - `/NOREPLICA_EXISTS`
  - **DEFAULT:** If you omit `/REPLICA_EXISTS`, the system does not select files based on whether or not a replica copy exists.
  - **RESTRICTIONS:** `/REPLICA_EXISTS` is meaningful only for files in the `PRIMARY` directory
- `/ORDER` Specifies the order in which files are displayed.
- **FORMAT:** `/ORDER=NATURAL` or `/ORDER=ANY`

NATURAL indicates that files are displayed in their natural order, which is alphabetically by group name and file name, and most recent version to oldest version.

ANY indicates that you do not have an order preference; as a result, the system displays the files in any order.

With /ORDER=ANY, if you specify a wildcard for the filename (either full or partial) and a value for /VOLUME or /VSET, the system will use an algorithm to produce the list of files faster than if it had to produce the list in natural order. However, if the wildcard specifies a very restrictive search, the system may produce the list of files faster if you specify /ORDER=NATURAL (the default) rather than /ORDER=ANY.

- DEFAULT: /ORDER=NATURAL

**/PASSWORDS** Specifies the file's read password.

- FORMAT: /PASSWORDS=readpw

You must specify a read password for each file in the command unless:

- The file is not protected by read passwords.
- Your privilege bypasses read access password checks.

File passwords are not allowed if filename or /GROUP includes a wild card.

- DEFAULT: If you omit /PASSWORDS, the file password defaults to null unless bypassed by a privilege.
- RESTRICTIONS: /PASSWORDS is mutually exclusive with /DELETED.

**/PHYSICAL** Selects files for display based on whether copies of all file extents physically reside in the performance buffer. /PHYSICAL specifies that the BUFFERED extent status and the /BUFFERED modifier require the extent to be physically in the performance buffer.

- FORMAT: /PHYSICAL
- DEFAULT: If you omit /PHYSICAL, the command does not select files based on whether copies of all file extents physically reside in the performance buffer.
- RESTRICTIONS:
  - /PHYSICAL is meaningful only for files in the PRIMARY directory.
  - /PHYSICAL must be specified in combination with /BUFFERED. Otherwise StorHouse ignores it.

- /PRIMARY\_EXISTS** Selects files based on whether they have a primary copy. **/NOPRIMARY\_EXISTS** selects files that do not have a primary copy.
- **FORMAT:**
    - **/PRIMARY\_EXISTS**
    - **/NOPRIMARY\_EXISTS**
  - **DEFAULT:** If you omit **/PRIMARY\_EXISTS**, the system does not select files based on whether a primary copy exists.
  - **RESTRICTION:** This modifier is meaningful only when you specify **/DIRECTORY=ARCHIVE** or **/DIRECTORY=BACKUP**.
- /RESIDENT** Selects files for display based on whether all extents have been written to their resident file sets. **/NORESIDENT** selects files whose extents have not all been written to their resident file sets.
- **FORMAT:**
    - **/RESIDENT**
    - **/NORESIDENT**
  - **DEFAULT:** If you omit **/RESIDENT**, the command does not select files based on whether all extents have been written to their resident file sets.
  - **RESTRICTIONS:** **/RESIDENT** is meaningful only for files in the **PRIMARY** directory.
- /RETAINED** Selects for display file versions that are retained, that is, file versions that have a retention attribute and that retention period has not passed.
- **FORMAT:** **/RETAINED**
  - **DEFAULT:** If you omit **/RETAINED**, the system does not select files based on whether they are retained.
- /RETENTION** Selects for display files that have/do not have a retention attribute (retention period).
- **FORMAT:**
    - **/RETENTION**
    - **/NORETENTION**
  - **DEFAULT:** If you omit **/RETENTION**, the command does not select files based on whether they have a retention attribute.
- /RPL\_CLASS** Selects files for display based on their replication class. A replication class is a collection of replication-related information (system, file set, volume set, and link names and network device identification) about the target StorHouse system.
- **FORMAT:**

- /RPL\_CLASS
- /RPL\_CLASS=replication\_class\_name
- /NORPL\_CLASS

A replication\_class\_name can consist of from 1 to 8 of the following ASCII characters: A-Z, 0-9, \_, and \$. StorHouse always forces replication class names to uppercase, even when enclosed in quotes

/RPL\_CLASS selects files with any replication class name.

/RPL\_CLASS=replication\_class\_name selects files with the specified replication class name.

/NORPL\_CLASS selects files with no replication class name.

- DEFAULT: If you omit /RPL\_CLASS, the system does not select files based on their replication class.

**/RESIDENT** Selects files for display based on whether all extents have been written to their resident file sets. /NORESIDENT selects files whose extents have not all been written to their resident file sets.

- FORMAT:
  - /RESIDENT
  - /NORESIDENT
- DEFAULT: If you omit /RESIDENT, the command does not select files based on whether all extents have been written to their resident file sets.
- RESTRICTIONS: /RESIDENT is meaningful only for files in the PRIMARY directory.

**/SAFE\_COPIES** Selects files for display with at least the specified number of safe copies in the PRIMARY, BACKUP, and ARCHIVE directories. For a file to be considered safe, it must be complete (that is, no missing extents) and usable (that is, not marked PENDING, SOFT\_DISABLED, or HARD\_DISABLED). In addition, for files in the PRIMARY directory, all extents must have been written to their resident file sets.

- FORMAT: /SAFE\_COPIES=number\_of\_copies

The number\_of\_copies can range from 1 through 3.

- DEFAULT: If you omit /SAFE\_COPIES, the system does not select files based on the number of safe copies that exist.

**/SINCE** Selects file versions with a creation date and time value that is the same as or later than a specified date and time. The version creation date and time are the date and time the primary version was first created in StorHouse.

- FORMAT: /SINCE=absolute\_time or /SINCE=delta\_time

For a full description of the absolute time and delta time data fields, see “Appendix B” of the *Command Language Reference Manual*.

- DEFAULT: If you omit /SINCE and /BEFORE, the system does not select files based on creation date and time.

/UNUSED Selects for display files that have not been accessed since the specified time.

- FORMAT: /UNUSED=absolute\_time or /UNUSED=delta\_time

Absolute time specifies a calendar date and clock time. For a full description of the absolute time and delta time data fields, see “Appendix B” of the *Command Language Reference Manual*.

- DEFAULT: If you omit /UNUSED, the default is to select files with any last-access date.

/USED Selects files for display that have been accessed since the specified time. See the "data\_field date-time" topic for information about absolute and delta time specifications.

- FORMAT:

- /USED=absolute\_time
- /USED=delta\_time

- DEFAULT: If you omit both /UNUSED and /USED, the default is to select files with any last-access date.

/VERSION Selects the specified file versions for display. The versions are relative version numbers in the directory selected by /DIRECTORY or, if you omit /DIRECTORY, in the primary directory.

- FORMAT: /VERSION=version or /VERSION=\*

The value of version can range from 0 through -32767 for primary files. For files in the archive and backup directories, the range is 0 through -65535.

- DEFAULT: If you omit /VERSION, the default is /VERSION=0.

/VOLUME Selects for display files whose resident file sets are located on the specified volume, including level F volumes.

SHOW FILE /VOLUME bases selection on a file's destination, which is not necessarily its current location.



With /ORDER=ANY, if you specify a wildcard for the filename (either full or partial) and a value for /VOLUME, the system will use an algorithm to produce the list of files faster than if it had to produce the list in natural order. However, if the wildcard specifies a very restrictive search, the system may produce the list of files faster if you specify /ORDER=NATURAL (the default) rather than /ORDER=ANY.

- FORMAT:

`/VOLUME={media_type}{recording_type}{volume_label}:{side}`

The braces “{ }” are not part of the specification.

- FORMAT RESTRICTIONS: The wild card is not allowed.
- DEFAULT: If you omit /VOLUME, the system does not select files by volume.
- RESTRICTIONS: /VOLUME is mutually exclusive with /DIRECTORY, /VSET, and /LEVEL.

**/VSET** Selects for display files that reside on the specified volume set.

With /ORDER=ANY, if you specify a wildcard for the filename (either full or partial) and a value for /VSET, the system will use an algorithm to produce the list of files faster than if it had to produce the list in natural order. However, if the wildcard specifies a very restrictive search, the system may produce the list of files faster if you specify /ORDER=NATURAL (the default) rather than /ORDER=ANY.

- FORMAT: /VSET=vset\_name
- FORMAT RESTRICTIONS: Wild cards are not allowed in the volume set name.
- DEFAULT: If you do not specify /VSET, the system does not use the vset\_name to select files.
- RESTRICTIONS: /VSET is mutually exclusive with /DIRECTORY, /VOLUME and /LEVEL.

## Examples

- To display directory information for the latest version of all files in your default file access group to which you have read access, enter:

```
? SHOW FILE *
```

The default display includes the file name, group name, relative version number, and fid.

```
FILE="EXTKEY" GROUP=USERGRP VERSION=0 FID=234.118
FILE="LOGFILE" GROUP=USERGRP VERSION=0 FID=234.8
FILE="USERFILE" GROUP=USERGRP VERSION=0 FID=234.201
```

Total files displayed=3

- To display all information available for version 0 of the file RPLCONFIG, including file extent information, enter:

```
? show file RPLCONFIG /FULL /EXTENT
```

```
FILE="RPLCONFIG" GROUP=STH VERSION=0 FID=1234.1125388
DATE=30-JAN-2006:16:20:56 SIZE=203 REVISION=1
DIRECT_REC=22329 LASTACCESS=30-JAN-2006:16:20:56
MODIFIED_DIR=30-JAN-2006:16:20:56 MODIFIED_FILE=30-JAN-
2006:16:20:56 BACKUP=none LIMIT=32768 PROTECTION=none
VTF=NEXT ATF=3 ORGANIZATION=SEQUENTIAL FILE_SYSTEM=67
HOST_TYPE=33 FRAME_VER=1 FRAME_SIZE=31744 FRAME_HDR=20
RECORD_HDR=5 HOST_UNIT=8 MAX_LENGTH=16384
RECORD_COUNT=0 ATTRIBUTES=0 ACCESSES=1 EDC=2
STATUS=COMPLETE
DESCRIPTOR=(NAMED, NOBACKUP) VSET=FVSET1 FSET=FVSET1
RETENTION=60 RPL_CLASS=none
```

```
EXTENT_COUNT=1
```

```
EXTENT_NUMBER=1000000
EXTENT_SID=1234
EXTENT_DATE=30-JAN-2006:16:20:56
EXTENT_WRITTEN=30-JAN-2006:16:20:56
EXTENT_REVISION=1 EXTENT_SIZE=203
EXTENT_LOCATION=MEA"F04":A
EXTENT_LEVEL=F
EXTENT_STATUS=(BUFFERED, LAST, NEW)
EXTENT_MF=4000000
EXTENT_RETENTION_DATE=60
```

```
EXTENTS_DISPLAYED=1
```

Total files displayed=1

- To display the file name, access group name, relative version number, fid, creation date, size, and last access date for all files in the access group USERGRP that were created before midnight of March 31, 2000, enter:

```
? SHOW FILE * /GROUP=USERGRP /BEFORE=31-MAR-2000 /BRIEF
```

The system displays the following information:

```
FILE="EXTKEY" GROUP=USERGRP VERSION=0 FID=234.105
DATE=29-MAR-2000:19:03:25 SIZE=398
```

```
FILE="USERFILE" GROUP=USERGRP VERSION=0 FID=234.2
DATE=28-MAR-2000:18:43:45 SIZE=1310
```

Total files displayed=2

- To display the file name, access group name, relative version number, fid, creation date, and size for the current version of all files in the access group USERGRP that were created before two days ago (delta time), enter:

```
? SHOW FILE * /GROUP=USERGRP /BEFORE=D2- /BRIEF
```

- To display all information available for version 0 of the file VRAMFILE, including file extent information, enter:

```
? SHOW FILE VRAMFILE /EXTENT /FULL
```

The system displays the following information:

```
FILE="VRAMFILE" GROUP=SERVICE VERSION=0 FID=234.8
DATE=16-NOV-1999:14:38:59 SIZE=75282 REVISION=2 DIRECT_REC=9
LASTACCESS=16-NOV-1999:14:47:14 MODIFIED_DIR=16-NOV-
1999:14:47:14 MODIFIED_FILE=16-NOV-1999:14:42:20 BACKUP=none
LIMIT=128 PROTECTION=none VTF=DIRECT ATF=3
ORGANIZATION=KEYSEQUENTIAL FILE_SYSTEM=66 HOST_TYPE=17
FRAME_VER=1 FRAME_SIZE=31744 FRAME_HDR=20 RECORD_HDR=5
HOST_UNIT=8 MAX_LENGTH=80 RECORD_COUNT=500 ATTRIBUTES=0
ACCESSES=7 EDC=2 STATUS=COMPLETE DESCRIPTOR=(NAMED,
NOBACKUP, REPLICATED) VSET=SYSTEM FSET=SERVICE
RETENTION=365 RPL_CLASS=SMBACKUP EXTENT_COUNT=3
```

```
EXTENT_NUMBER=1000002 EXTENT_SID=234
EXTENT_DATE=16-NOV-1999:14:41:48
EXTENT_WRITTEN=16-NOV-1999:14:42:19 EXTENT_REVISION=2
EXTENT_SIZE=5154 EXTENT_LOCATION=OAD"2523A699":A
EXTENT_LEVEL=L EXTENT_STATUS=(LAST) EXTENT_MF=none
EXTENT_RETENTION_DATE=16-NOV-2000:11:59:59
```

```
EXTENT_NUMBER=1000001 EXTENT_SID=234
EXTENT_DATE=16-NOV-1999:14:41:40
EXTENT_WRITTEN=16-NOV-1999:14:41:46 EXTENT_REVISION=2
EXTENT_SIZE=67022 EXTENT_LOCATION=OAD"2523A699":A
EXTENT_LEVEL=L EXTENT_STATUS=(none) EXTENT_MF=none
EXTENT_RETENTION_DATE=16-NOV-2000:11:59:59
```

```
EXTENT_NUMBER=1000000 EXTENT_SID=234
EXTENT_DATE=16-NOV-1999:14:39:01
EXTENT_WRITTEN=16-NOV-1999:14:39:02 EXTENT_REVISION=1
EXTENT_SIZE=3106 EXTENT_LOCATION=OAD"2523A648":A
EXTENT_LEVEL=L EXTENT_STATUS=(LAST) EXTENT_MF=none
EXTENT_RETENTION_DATE=16-NOV-2000:11:59:59
```

EXTENTS\_DISPLAYED=3

Total files displayed=1

- To display version 0 of all deleted files in the current file access group, enter:

```
? SHOW FILE * /DELETED
```

The system displays the following information:

```
FILE="CHCONFIG" GROUP=SERVICE VERSION=0 FID=100.5
FILE="NETCONFIG" GROUP=SERVICE VERSION=0 FID=100.1
FILE="SMCONFIG" GROUP=SERVICE VERSION=0 FID=100.4
```

- To display all files in the primary directory and the current file access group that begin with "AMMO" and whose extensions begin with "A", enter:

```
? SHOW FILE AMMO*.A*
```

```
FILE="AMMO.ABEND" GROUP=TEST VERSION=0 FID=4444.115345
```

```
FILE="AMMO30.AMMXB268" GROUP=TEST VERSION=0
FID=2062.2005387
```

```
FILE="AMMO30.AMMCS860" GROUP=TEST VERSION=0
FID=2062.1003465
```

```
FILE="AMMO30.AMMCS861" GROUP=TEST VERSION=0
FID=2062.1003466
```

```
FILE="AMMO30.AMMCS880" GROUP=TEST VERSION=0
FID=2062.1151369
```

```
FILE="AMMOII.ABENDOC4" GROUP=TEST VERSION=0 FID=4444.115352
```

Total files displayed=6

- To display information for the latest version of all files in your default file access group for which you have read access whose names contain the numbers "99", enter:

```
? SHOW FILE *99*
```

The default display for each file includes the file name, group name, relative version number, and fid.

```
FILE="99FILE1" GROUP=USERGRP VERSION=0 FID=234.201
FILE="EXT99" GROUP=USERGRP VERSION=0 FID=234.118
FILE="LOG99" GROUP=USERGRP VERSION=0 FID=234.8
```

Total Files Displayed=3

- To display the files in your default file access group that have archive copies, enter:

? SHOW FILE \* /ARCHIVE\_EXISTS

- To display all information available for version 0 of the file RPLCONFIG, including file extent information, enter:

? show file RPLCONFIG /FULL /EXTENT

```
FILE="RPLCONFIG" GROUP=STH VERSION=0 FID=1234.1125388
DATE=30-JAN-2006:16:20:56 SIZE=203 REVISION=1
DIRECT_REC=22329 LASTACCESS=30-JAN-2006:16:20:56
MODIFIED_DIR=30-JAN-2006:16:20:56 MODIFIED_FILE=30-JAN-
2006:16:20:56 BACKUP=none LIMIT=32768 PROTECTION=none
VTF=NEXT ATF=3 ORGANIZATION=SEQUENTIAL FILE_SYSTEM=67
HOST_TYPE=33 FRAME_VER=1 FRAME_SIZE=31744 FRAME_HDR=20
RECORD_HDR=5 HOST_UNIT=8 MAX_LENGTH=16384
RECORD_COUNT=0 ATTRIBUTES=0 ACCESSES=1 EDC=2
STATUS=COMPLETE DESCRIPTOR=(NAMED, NOBACKUP)
VSET=FVSET1 FSET=FVSET1 RETENTION=60 RPL_CLASS=none
```

EXTENT\_COUNT=1

EXTENT\_NUMBER=1000000

EXTENT\_SID=1234

EXTENT\_DATE=30-JAN-2006:16:20:56

EXTENT\_WRITTEN=30-JAN-2006:16:20:56

EXTENT\_REVISION=1 EXTENT\_SIZE=203

EXTENT\_LOCATION=MEA"F04":A

EXTENT\_LEVEL=F

EXTENT\_STATUS=(BUFFERED, LAST, NEW)

EXTENT\_MF=4000000

EXTENT\_RETENTION\_DATE=60

EXTENTS\_DISPLAYED=1

Total files displayed=1

## SHOW FSET

The SHOW FSET command displays information about a file set.

### Format

SHOW FSET fset\_name

| COMMAND FORMAT SUMMARY         |                              |                       |                      |                        |                 |
|--------------------------------|------------------------------|-----------------------|----------------------|------------------------|-----------------|
| COMMAND PARAMETER, OR MODIFIER | REQUIRED COMMAND PRIVILEGE   | REQUIRED GROUP ACCESS | REQUIRED FILE ACCESS | MINIMUM ACCOUNT ACCESS | DEFAULT         |
| SHOW FSET                      | SHOW or ALLOCATION or SYSTEM | -                     | -                    | -                      | -               |
| fset_name                      | -                            | -                     | -                    | -                      | Current default |
| /AUTO_STAGE                    |                              |                       |                      |                        | See text        |
| /FULL                          | -                            | -                     | -                    | -                      | -               |
| /VSET=...                      | -                            | -                     | -                    | -                      | Current default |

### Description

SHOW FSET displays file set information. If you do not specify any modifiers, the system displays the following information:

- FSET=fset\_name indicates the name of the file set.
- VSET=vset\_name indicates the name of the volume set.
- DIRECTORY=directory\_name indicates the name of the directory to which the volume set belongs.
- SIZE=size displays the total size of the file set.
- GENERAL\_FREE=size displays the number of bytes available for allocation to files. (This does not include UPDATE\_FREE storage.)
- UPDATE\_FREE=size displays the number of bytes set aside for allocation to file updates.
- STATE=(CONTIGUOUS, AUTO\_STAGE, FORCE\_RETENTION) indicates that the file set has the contiguous storage allocation attribute, the AUTO\_STAGE attribute, the FORCE\_RETENTION attribute, or some combination of the three. If a file set has no assigned attributes, STATE does not display.

- RETENTION=(number\_of\_days, DEFAULT, FOREVER) indicates the file set retention attribute. The number of days can range from 0-65000. StorHouse displays RETENTION only for primary file sets.
- RPL\_CLASS=(rpl\_class\_name, none) indicates the name of the replication class assigned to the file set or none if the file set does not have a replication class. StorHouse displays this field only for primary file sets.

Sizes are displayed in 1000-byte units and followed by the letters KB. If a size is not a multiple of 1000 bytes, the system rounds it down for display.

### Parameters

fset\_name Specifies the name of the file set for which information is to be displayed.

- FORMAT:
  - fset\_name
  - partial\_fset\_name\*
  - \*
- DEFAULT: If you omit this parameter, the default is your default file set name.

### Parameter Modifiers

/AUTO\_STAGE Displays file sets with or without the AUTO\_STAGE attribute.

- FORMAT: /AUTO\_STAGE or /NOAUTO\_STAGE
- DEFAULT: StorHouse uses the AUTO\_STAGE attribute of a file set as a selection criteria for SHOW FSET only if you specify /AUTO\_STAGE or /NOAUTO\_STAGE.
- RESTRICTIONS: None.
- PRIVILEGES: None.

/FULL Displays all available information for a file set.

/FULL displays the same information as the default display, plus the following:

- GENERAL\_ALLOCATED=size displays the number of bytes allocated to files for general usage. (This does not include UPDATE\_ALLOCATED storage.)
- UPDATE\_ALLOCATED=size displays the number of bytes allocated to file updates.
- UPDATE\_PERCENT=percentage displays the value of the update attribute for the file set.

- LIMIT=size displays the value of the limit attribute for the file set.
- CREATED=date\_time displays the absolute date and time the file set was created.
- MODIFIED=date\_time displays the absolute date and time the file set was last modified.

Sizes are displayed in 1000-byte units and followed by the letters KB. If a size is not a multiple of 1000 bytes, the system rounds it down for display.

- FORMAT: /FULL
- DEFAULT: If you omit /FULL, the command displays a basic set of information described at the beginning of the SHOW FSET section.

**/VSET** Displays file sets located in the specified volume set.

- FORMAT:
  - /VSET=vset\_name
  - /VSET=partial\_vset\_name\*
  - /VSET=\*
- DEFAULT: If you omit /VSET, the default is your default volume set.

### Examples

- To display basic information for file set P in volume set P, enter:

```
? SHOW FSET P /VSET=P
```

```
FSET=P VSET=P DIRECTORY=PRIMARY SIZE=10444KB
GENERAL_FREE=10433KB UPDATE_FREE=0KB STATE=(CONTIGUOUS,
FORCE_RETENTION) RETENTION=365 RPL_CLASS=STANDARD
```

```
Total fsets displayed=1
```

- To show all information for file set P in volume set P, enter:

```
? SHOW FSET P /VSET=P /FULL
```

```
FSET=P VSET=P DIRECTORY=PRIMARY SIZE=10444KB
GENERAL_FREE=10433KB UPDATE_FREE=0KB
GENERAL_ALLOCATED=11KB UPDATE_ALLOCATED=0KB
UPDATE_PERCENT=00 LIMIT=0KB CREATED=26-MAR-2004:13:59:59
MODIFIED=26-MAR-2004:14:05:57 STATE=(CONTIGUOUS,
FORCE_RETENTION) RETENTION=365 RPL_CLASS=STANDARD
```

```
Total fsets displayed=1
```



- To display all file sets in your default volume set with the AUTO\_STAGE attribute:

```
? SHOW FSET * /AUTO_STAGE
```

The system displays the following information:

```
FSET=USERFSET VSET=USERVSET DIRECTORY=PRIMARY
SIZE=1853KB GENERAL_FREE=2KB UPDATE_FREE=0KB
STATE=(AUTO_STAGE,REPLICATED) RETENTION=FOREVER
/RPL_CLASS=STANDARD
```

Total fsets displayed=1

## SHOW GROUP

The SHOW GROUP command shows information for a group.

### Format

SHOW GROUP groupname<:readpw>

| COMMAND FORMAT SUMMARY         |                            |                       |                      |                        |                  |
|--------------------------------|----------------------------|-----------------------|----------------------|------------------------|------------------|
| COMMAND PARAMETER, OR MODIFIER | REQUIRED COMMAND PRIVILEGE | REQUIRED GROUP ACCESS | REQUIRED FILE ACCESS | MINIMUM ACCOUNT ACCESS | DEFAULT          |
| SHOW GROUP                     | SHOW or GROUP              | -                     | -                    | -                      | -                |
| groupname                      | -                          | R                     | -                    | -                      | Current defaults |
| /PERF_BUF                      | -                          | -                     | -                    | -                      | -                |
| /PROTECTION                    | -                          | -                     | -                    | -                      | -                |

### Description

SHOW GROUP displays group information.

### Parameters

**groupname** Specifies the access group name and, optionally, the group's read password.

- **FORMAT:**
  - groupname:readpw
  - groupname
  - partial\_groupname\*
  - \*
- **DEFAULT:** If you do not specify a group name, the default is your current default group and access rights. If you specify a group name without a password, the default password is a null string.
- **ACCESS REQUIREMENTS:** Read access to the group. You must specify the read password unless:
  - The group is not protected by a read password.
  - Your privilege bypasses read access password checks.
  - Your default access to the group includes read access.

You cannot specify group passwords if groupname contains a wild card.

## Parameter Modifiers

- /PERF\_BUF** Displays the amount of performance buffer space reserved for the group (MINIMUM) and the amount of space currently allocated to (used by) the group (CURRENT) in bytes.
- **FORMAT:** /PERF\_BUF
  - **DEFAULT:** If you omit /PERF\_BUF, the command does not display the amount of performance buffer space reserved for or allocated by the group.
- /PROTECTION** Displays the types of passwords, if any, that protect the group as follows:
- PROTECTION=RWD
- The letters R, W, and D indicate that the group is protected by read, write, and delete passwords, respectively. Null read, write, and/or delete passwords are indicated by the lack of the appropriate letter(s) following the equal sign. None indicates that the group has no access passwords.
- **FORMAT:** /PROTECTION
  - **DEFAULT:** If you omit /PROTECTION, the command does not display the types of passwords.

## Examples

- To display the name of your default file access group, enter:

```
? SHOW GROUP
```

The system displays the following information:

```
GROUP=USERGRP
```

- Because you did not specify a group name, the following command displays information for your default file access group (in other words, the default file access group for the user executing the command):

```
? SHOW GROUP /PROTECTION
```

The group name and the types of passwords assigned to the group display as follows:

GROUP=USERGRP PROTECTION=R

USERGRP has a read password, indicated by R.

- To display the amount of performance buffer space reserved for and currently allocated to USERGRP, enter:

? SHOW GROUP USERGRP /PERF\_BUF

The system displays the following information.

GROUP=USERGRP PB\_MINIMUM=2000000 PB\_CURRENT 1000000

# SHOW LOCKS

The SHOW LOCKS command displays explicitly locked file versions.

## Format

SHOW LOCKS fid

| COMMAND FORMAT SUMMARY            |                                  |                             |                            |                              |            |
|-----------------------------------|----------------------------------|-----------------------------|----------------------------|------------------------------|------------|
| COMMAND PARAMETER,<br>OR MODIFIER | REQUIRED<br>COMMAND<br>PRIVILEGE | REQUIRED<br>GROUP<br>ACCESS | REQUIRED<br>FILE<br>ACCESS | MINIMUM<br>ACCOUNT<br>ACCESS | DEFAULT    |
| SHOW LOCKS                        | SHOW or<br>LOCK or<br>FILE       | -                           | -                          | -                            | -          |
| fid                               | -                                | -                           | -                          | -                            | (Required) |

## Description

For each file you specify, this command displays the group name, file name, file identifier (fid), and account identifier under which the file version is locked. A file lock applies to all copies of a file version in all directories.

To obtain a file identifier, you can first execute SHOW FILE for the file version.

## Parameters

fid Specifies the file identifier (fid) of the file version to be displayed.

- **FORMAT:** x.y or \*

x is the system identifier, and y is the file number assigned to the file. An example of a file identifier is 234.683, where 234 is the system identifier and 683 is the file number. All files created in a single StorHouse system have the same system identifier (x). The file number (y) makes the file identifier unique. The file number can range from 1 through 4294967295.

A wild card indicates that all explicitly locked files are to be displayed.

- **DEFAULT:** None; you must specify this parameter.

## Examples

- To display lock information for all explicitly locked files, enter:

```
? SHOW LOCKS *
```

The system displays the file identifier, file name, group name, and account under which each file version is locked:

```
FID=234.661 FILE="USERFILE1" GROUP=SERVICE ACCOUNT_ID=SYSTEM
FID=234.798 FILE="USERFILE2" GROUP=SERVICE ACCOUNT_ID=SYSTEM
```

```
Total locks displayed=2
```

- To display lock information for the file whose fid is 234.9123, enter:

```
? SHOW LOCKS 234.9123
```

The system displays the following information:

```
FID=234.9123 FILE="USERFILE3" GROUP=USERGRP ACCOUNT_ID=SYSTEM
```

```
Total locks displayed=1
```

If the specified file is not explicitly locked, the system returns an error message.

## SHOW PARTITION

The SHOW PARTITION command displays information about the part of a file set on a specific volume side (a partition).

### Format

SHOW PARTITION <fset\_name>

| COMMAND FORMAT SUMMARY         |                              |                       |                      |                        |                 |
|--------------------------------|------------------------------|-----------------------|----------------------|------------------------|-----------------|
| COMMAND PARAMETER, OR MODIFIER | REQUIRED COMMAND PRIVILEGE   | REQUIRED GROUP ACCESS | REQUIRED FILE ACCESS | MINIMUM ACCOUNT ACCESS | DEFAULT         |
| SHOW PARTITION                 | SHOW or ALLOCATION or SYSTEM | -                     | -                    | -                      | -               |
| fset_name                      | -                            | -                     | -                    | -                      | Current default |
| /FULL                          | -                            | -                     | -                    | -                      | -               |
| /VOLUME=...                    | -                            | -                     | -                    | -                      | See text        |
| /VSET=...                      | -                            | -                     | -                    | -                      | See text        |

### Description

SHOW PARTITION displays information for a partition of a file set—the part of a file set that resides on a specific volume side. If you do not specify any modifiers, the system provides a default display containing the following:

- FSET=fset\_name indicates the name of the file set.
- VSET=vset\_name indicates the name of the volume set.
- DIRECTORY=directory\_name indicates the name of the directory to which the volume set belongs.
- VOLUME=vid indicates the volume identification code of the volume side on which the partition is located.
- SIZE=size displays the number of bytes in the partition.
- GENERAL\_FREE=size displays the number of bytes in the partition that are available for allocation to files. (This does not include UPDATE\_FREE storage.)
- UPDATE\_FREE=size displays the number of bytes in the partition that are set aside for allocation to file updates.

Sizes are displayed in 1000-byte units and followed by the letters KB. If a size is not a multiple of 1000 bytes, the system rounds it down for display.

## Parameters

`fset_name` Specifies the name of the file set containing the partition.

- **FORMAT:**
  - `fset_name`
  - `partial_fset_name*`
  - `*`
- **DEFAULT:** If you omit `fset_name`, the default is your default file set name.

## Parameter Modifiers

`/FULL` Displays all available information for the partition.

`/FULL` displays the same information as the default display (see the description of the command), plus the following:

- `GENERAL_ALLOCATED=size` displays the number of bytes in the partition that are allocated to files for general usage. (This does not include `UPDATE_ALLOCATED` storage.)
- `UPDATE_ALLOCATED=size` displays the number of bytes in the partition that are allocated to file updates.
- `CREATED=date_time` displays the absolute date and time the partition was created.
- `MODIFIED=date_time` displays the absolute date and time the partition was last modified.

Sizes are displayed in 1000-byte units and followed by the letters KB. If a size is not a multiple of 1000 bytes, the system rounds it down for display.

**Note:** The `CREATED` and `MODIFIED` dates will display as midnight, January 1, 1970, unless they were changed after installing Release 3.0 of the Storage Machine software.

- **FORMAT:** `/FULL`
- **DEFAULT:** If you omit `/FULL`, the command displays the information listed in the command description.



**/VOLUME** Specifies the volume identification code that identifies the partition.

- **FORMAT:**
  - `/VOLUME={media_type}{recording_type}{volume_label}:{side}`
  - `/VOLUME=*`

The braces “{ }” are not part of the specification.

- **DEFAULT:** If you omit this modifier, `/VSET` specifies the volumes to be used.
- **RESTRICTIONS:** `/VOLUME` and `/VSET` are mutually exclusive.

**/VSET** Selects volume sides located in the specified volume set as the source of file set information for display.

- **FORMAT:** `/VSET=vset_name`
- **DEFAULT:** If you omit `/VOLUME` and `/VSET`, the default is your current default volume set.
- **RESTRICTIONS:** `/VOLUME` and `/VSET` are mutually exclusive.

## Examples

- To display information about all partitions in your default file set and volume set, enter:

```
? SHOW PARTITION
```

The system displays the following information:

```
FSET=USERFSET VSET=USERVSET DIRECTORY=ARCHIVE
VOLUME=OAD"242F38AD":A SIZE=1853KB GENERAL_FREE=2KB
UPDATE_FREE=0KB
```

```
Total partitions displayed= 1
```

- To display all available information about all partitions in the file set `USERFSET` located in the volume set `USERVSET`, enter:

```
? SHOW PARTITION USERFSET /VSET=USERVSET /FULL
```

The system displays the following information:

```
FSET=USERFSET VSET=USERVSET DIRECTORY=PRIMARY
VOLUME=OAD"242F38AD":A SIZE=1853KB GENERAL_FREE=2KB
UPDATE_FREE=0KB GENERAL_ALLOCATED=1165KB
UPDATE_ALLOCATED=685KB CREATED=28-MAR-2000:07:54:09
MODIFIED=29-MAR-2000:19:07:14
```

Total partitions displayed= 1

- To display information for all partitions located on side A of the volume OAD242F38AD, enter:

```
? SHOW PARTITION * /VOLUME=OAD"242F38AD":A
```

The system displays the following information:

```
FSET=USERFSET VSET=USERVSET DIRECTORY=BACKUP
VOLUME=OAD"242F38AD":A SIZE=1853KB GENERAL_FREE=2KB
UPDATE_FREE=0KB
```

Total partitions displayed= 1

# SHOW SCHEDULE

The SHOW SCHEDULE command displays the events in the schedule of commands to be run.

## Format

SHOW SCHEDULE

| COMMAND FORMAT SUMMARY         |                            |                       |                      |                        |           |
|--------------------------------|----------------------------|-----------------------|----------------------|------------------------|-----------|
| COMMAND PARAMETER, OR MODIFIER | REQUIRED COMMAND PRIVILEGE | REQUIRED GROUP ACCESS | REQUIRED FILE ACCESS | MINIMUM ACCOUNT ACCESS | DEFAULT   |
| SHOW SCHEDULE                  | SHOW or SCHEDULE           | -                     | -                    | -                      | -         |
| /ACCOUNT<=aid>                 | -                          | -                     | -                    | -                      | /ACCOUNT  |
| (own account)                  | -                          | -                     | -                    | -                      | -         |
| (any account)                  | -                          | -                     | -                    | SHOA                   | -         |
| /COMMAND<=...>                 | -                          | -                     | -                    | -                      | /COMMAND  |
| /ID<=...>                      | -                          | -                     | -                    | -                      | /ID       |
| /SCHEDULE                      | -                          | -                     | -                    | -                      | /SCHEDULE |
| /START<=...>                   | -                          | -                     | -                    | -                      | /START    |

## Description

SHOW SCHEDULE displays events (commands) that are in the queue of scheduled events. You can select information to be displayed for each event by selecting the applicable modifiers. You can select events to be displayed by specifying values for modifiers. If an event has all of the specified modifier values, it displays.

If no commands are scheduled, the system indicates that it cannot find scheduled events.

## Command Modifiers

**/ACCOUNT** Displays account identification codes (aid) and, optionally, specifies an account for which scheduled events are to be displayed. /NOACCOUNT inhibits the display of the account identification code.

- **FORMAT:** /ACCOUNT, /ACCOUNT=aid, or /NOACCOUNT

- **DEFAULT:** If you omit the modifier, the default is /ACCOUNT, which displays the account identification code of each event displayed. If you specify the modifier without an account identification code (the default), the command displays all events allowed by your level of access privilege.
- **PRIVILEGE:** If you have SHOACCOUNT or ANYACCOUNT privilege, the command can display events scheduled by any account; otherwise, it displays only those events scheduled by your account.

**/COMMAND** Displays scheduled commands. If you specify a command verb, all entries with that command verb will be displayed. A command verb is the first word or words in a command line that identify the command to be executed.

- **FORMAT:**
  - /COMMAND<=command\_verb>
  - /NOCOMMAND

/NOCOMMAND inhibits the display of scheduled command verbs. All other information displays unless specifically inhibited.

- **DEFAULT:** /COMMAND

**/ID** Displays scheduled event identifiers or a specific scheduled event.

- **FORMAT:**
  - /ID<=identifier>
  - /NOID

/NOID inhibits the display of scheduled event identifiers. All other information displays unless specifically inhibited.

- **DEFAULT:** /ID

**/SCHEDULE** Displays command schedules.

- **FORMAT:** /SCHEDULE or /NOSCHEDULE

/NOSCHEDULE inhibits the display of command schedules. All other information displays unless specifically inhibited.

- **DEFAULT:** /SCHEDULE

**/START** Displays command start times. /NOSTART does not display start times. If you also specified an absolute or delta time, all scheduled events that have an equivalent start time will be candidates for display.

- FORMAT:
  - /NOSTART
  - /START
  - /START=absolute\_time
  - /START=delta\_time

See Appendix B, “Data Field, Parameter, and Modifier Definitions” for a full description of the absolute time and delta time data fields.

*Absolute time* specifies a calendar date and clock time. Specify absolute time as:

<<day>-<month>-<year>><:<hour><:<minute><:<second>>>

If you do not specify a day, month or year, the current day, month or year, respectively, is the default. If you do not specify an hour, minute or second, the subfield defaults to zero.

*Delta time* specifies the amount of time since or before an event. Specify delta time as (the leading D is required):

D<days>-<hours><:<minutes><:<seconds>>>

The default for any field that is not specified is zero.

- DEFAULT: /START

## Examples

- To display information about commands in the queue of scheduled events, enter:

```
? SHOW SCHEDULE
```

The system displays the following information:

```
ACCOUNT=USER1 ID=256D6DC9 SCHEDULE=DAILY:1
START=29-MAR-2000:21:00:00 COMMAND=MIGRATE
```

```
ACCOUNT=USER1 ID=256E6DCB SCHEDULE=DAILY:1
START=30-MAR-2000:03:00:00 COMMAND=BACKUP
```

For each command the information displayed includes:

- Account identifier of the user who scheduled the command
- Event identifier (the identifier assigned to the command)
- Schedule and frequency
- Start date and time
- Command name.

- To display the schedules and start times for all scheduled BACKUP commands but not display account identification codes, enter:

```
? SHOW SCHEDULE /COMMAND=BACKUP /NOACCOUNT
```

The system displays the following information:

```
ID=256D6DC9 SCHEDULE=DAILY:1 START=30-MAR-2000:03:00:00
COMMAND=BACKUP
```

```
ID=256E6DCB SCHEDULE=DAILY:1 START=30-MAR-2000:19:00:00
COMMAND=BACKUP
```

/NOACCOUNT selects events scheduled by all users but does not display account identification codes.

- To display all commands, with their event identifiers, that have been scheduled by the account USER1, enter:

```
? SHOW SCHEDULE /ACCOUNT=USER1
```

The system displays the following information:

```
ACCOUNT=USER1 ID=256D6DC9 SCHEDULE=DAILY:1
START=30-MAR-2000:07:30:00 COMMAND=NEWLOG
```

```
ACCOUNT=USER1 ID=256E6DCB SCHEDULE=DAILY:7
START=01-APR-2000:07:00:00 COMMAND=REMOVE FILE
```

# SHOW SYSTEM

The SHOW SYSTEM command shows the current value of a system parameter.

## Format

SHOW SYSTEM name

| COMMAND FORMAT SUMMARY            |                                  |                             |                            |                              |            |
|-----------------------------------|----------------------------------|-----------------------------|----------------------------|------------------------------|------------|
| COMMAND PARAMETER,<br>OR MODIFIER | REQUIRED<br>COMMAND<br>PRIVILEGE | REQUIRED<br>GROUP<br>ACCESS | REQUIRED<br>FILE<br>ACCESS | MINIMUM<br>ACCOUNT<br>ACCESS | DEFAULT    |
| SHOW SYSTEM                       | SHOW or<br>SYSTEM                | -                           | -                          | -                            | -          |
| name                              | -                                | -                           | -                          | -                            | (Required) |

## Description

SHOW SYSTEM displays system parameter values.

## Parameters

**name** Specifies the name of a system parameter.

- **FORMAT:**
  - name
  - partial\_name\*
  - \*

System parameter names contain 1 to 16 characters. The system parameters are described in Appendix A, “System Parameter Descriptions.”

- **DEFAULT:** None; you must specify this parameter.

## Examples

- To display the release number of the StorHouse software installed on the system, enter:

```
? SHOW SYSTEM RELEASE
```

The system displays the following information:

```
RELEASE = 5.2
```

- To display the maximum number of bytes of cache for records read from a VRAM file, enter:

```
? SHOW SYSTEM VRAM_CACHE_MAX
```

The system displays the following information:

```
VRAM_CACHE_MAX = 50000
```

- To display the date, time, and location of the last checkpoint, enter:

```
? SHOW SYSTEM CHKP_TAKEN
```



## SHOW TIME

The SHOW TIME command displays the current date and time.

### Format

SHOW TIME

| COMMAND FORMAT SUMMARY            |                                  |                             |                            |                              |         |
|-----------------------------------|----------------------------------|-----------------------------|----------------------------|------------------------------|---------|
| COMMAND PARAMETER,<br>OR MODIFIER | REQUIRED<br>COMMAND<br>PRIVILEGE | REQUIRED<br>GROUP<br>ACCESS | REQUIRED<br>FILE<br>ACCESS | MINIMUM<br>ACCOUNT<br>ACCESS | DEFAULT |
| SHOW TIME                         | -                                | -                           | -                          | -                            | -       |

### Description

SHOW TIME displays the current date and time in absolute date/time format.

### Example

To display the current date and time in absolute date/time format, enter:

```
? SHOW TIME
```

The system displays the following information:

```
31-MAR-2000:08:06:10
```

## SHOW USER

The SHOW USER command displays the account identification code, user identification code, and other current information for one or more users signed on to StorHouse.

### Format

SHOW USER <uid>

| COMMAND FORMAT SUMMARY         |                            |                       |                      |                        |              |
|--------------------------------|----------------------------|-----------------------|----------------------|------------------------|--------------|
| COMMAND PARAMETER, OR MODIFIER | REQUIRED COMMAND PRIVILEGE | REQUIRED GROUP ACCESS | REQUIRED FILE ACCESS | MINIMUM ACCOUNT ACCESS | DEFAULT      |
| SHOW USER                      | -                          | -                     | -                    | -                      | -            |
| uid                            | -                          | -                     | -                    | -                      | Your own uid |
| (own uid)                      | -                          | -                     | -                    | -                      | -            |
| (other uid)                    | -                          | -                     | -                    | SHOA                   | -            |
| /CURRENT                       | -                          | -                     | -                    | -                      | /CURRENT     |
| /FULL                          | SHOW                       | -                     | -                    | -                      | -            |
| /SYSTEM                        | SHOW                       | -                     | -                    | -                      | -            |

### Description

SHOW USER displays the account identification code, user identification code, and other current information for an active user of StorHouse.

### Parameters

**uid** Specifies the user identification code (uid) for which information is to be displayed. The uid is optional.

- **FORMAT:** uid or \*

The uid is a four-digit, decimal field ranging from 1 through 9999.

- **FORMAT RESTRICTIONS:** If you specify a wild card, it must replace all four digits; that is, a partial uid is not allowed.
- **DEFAULT:** If you omit this parameter, the default shows information for your own uid.

- **ACCESS REQUIREMENTS:** You must have ANYACCOUNT or SHOACCOUNT privilege to show information for any uid but your own.

## Parameter Modifiers

**/CURRENT** Displays current information for a StorHouse user.

- **FORMAT:** /CURRENT or /NOCURRENT

Displays the uid and aid as well as the following current information for a session:

- Default access group name and rights
- Wild card
- Operator console message status (if enabled)
- Privileges
- Default volume set name and file set name.

**/NOCURRENT** indicates that the above information is not to be displayed.

The default group access rights are displayed as follows:

RIGHTS=RWD

The letters following the equal sign indicate the indicated user's default access to the user's default file access group:

- R indicates read access.
- W indicates write access.
- D indicates delete access.
- A null in place of an R, W, or D indicates no default access for that type.
- The word none indicates that the user has no default access.

If operator console message forwarding is enabled for the user, the command displays:

CONSOLE=ENABLED

If forwarding is not enabled, this field does not appear.

- **DEFAULT:** If you omit the modifier, the default is /CURRENT.
- **ACCESS REQUIREMENTS:** No group access rights are required to show the current default group name and access rights.
- **RESTRICTIONS:** If you select both /CURRENT and /FULL, /FULL overrides /CURRENT.

**/FULL** Displays the following current information for the specified user(s):

- Default access group name and rights
- Wild card
- Operator console message status (if enabled)
- Default volume set name and file set name
- Privileges
- Command.

See the descriptions of the other modifiers for display formats.

- **FORMAT:** /FULL
- **DEFAULT:** If you omit /FULL, the display is controlled by the /CURRENT and /SYSTEM modifiers.
- **PRIVILEGE:** SHOW privilege.

**/SYSTEM** Selects for display the current commands of the specified users.

- **FORMAT:** /SYSTEM
- **DEFAULT:** The default is no /SYSTEM modifier.
- **RESTRICTIONS:** If you select both /FULL and /SYSTEM, /FULL overrides /SYSTEM.
- **PRIVILEGE:** SHOW privilege.

## Examples

- To display all available information for users signed on StorHouse at the time the command is being executed, enter:

```
? SHOW USER * /FULL
```

The system displays the following information:

```
UID=2 AID=USER1 GROUP=USERGRP RIGHTS=RWD WILDCARD=*
VSET=USERVSET FSET=USERFSET PRIVILEGE=(ALLPRIVILEGE,
SHOACCOUNT) COMMAND=SHOW USER
```

```
UID=6 AID=USER1 GROUP=USERGRP RIGHTS=RW WILDCARD=*
VSET=USERVSET FSET=USERFSET PRIVILEGE=(PUT,GET)
COMMAND=none CONSOLE=ENABLED
```

For each user signed on, the information displayed includes the user's system-assigned user identification code (uid) and account identification code (aid) as well as the user's default group access rights, wildcard, default file set and volume set, and privileges, and operator console status, if enabled.

- To display the user identification code (uid) and the account identification code (aid) for user 6, enter:

```
? SHOW USER 6 /NOCURRENT
```

The system displays the following information:

```
UID=6 AID=SYSTEM
```

If no user with a uid of 6 is signed on when the command is executed, the command returns an error message. Specifying /NOCURRENT displays only the uid and aid for the specified user.

## SHOW VOLUME

The SHOW VOLUME command displays information about a StorHouse volume.

### Format

SHOW VOLUME vid

| COMMAND FORMAT SUMMARY            |                                  |                             |                            |                              |            |
|-----------------------------------|----------------------------------|-----------------------------|----------------------------|------------------------------|------------|
| COMMAND PARAMETER,<br>OR MODIFIER | REQUIRED<br>COMMAND<br>PRIVILEGE | REQUIRED<br>GROUP<br>ACCESS | REQUIRED<br>FILE<br>ACCESS | MINIMUM<br>ACCOUNT<br>ACCESS | DEFAULT    |
| SHOW VOLUME                       | SHOW                             | -                           | -                          | -                            | -          |
| vid                               | -                                | -                           | -                          | -                            | (Required) |
| /ACTIVE                           | -                                | -                           | -                          | -                            | -          |
| /BRIEF                            | -                                | -                           | -                          | -                            | /BRIEF     |
| /DATE                             | -                                | -                           | -                          | -                            | -          |
| /DEACTIVATED                      | -                                | -                           | -                          | -                            | -          |
| /DIRECTORY=...                    | -                                | -                           | -                          | -                            | -          |
| /DISABLED                         | -                                | -                           | -                          | -                            | -          |
| /DISMOUNTED                       | -                                | -                           | -                          | -                            | -          |
| /ENABLED                          | -                                | -                           | -                          | -                            | -          |
| /EXPIRED                          | -                                | -                           | -                          | -                            | -          |
| /EXTENTS                          | -                                | -                           | -                          | -                            | -          |
| /FIRST_ALLOCATION                 | -                                | -                           | -                          | -                            | -          |
| /FIXED                            | -                                | -                           | -                          | -                            | -          |
| /FREE_POOL=...                    | -                                | -                           | -                          | -                            | -          |
| /FULL                             | -                                | -                           | -                          | -                            | -          |
| /HOLD=...                         | -                                | -                           | -                          | -                            | -          |
| /LAST_ALLOCATION                  | -                                | -                           | -                          | -                            | -          |
| /LOCATION=...                     | -                                | -                           | -                          | -                            | -          |
| /MEMO=...                         | -                                | -                           | -                          | -                            | -          |
| /MOUNTS                           | -                                | -                           | -                          | -                            | -          |
| /NEEDS_CLEANING                   | -                                | -                           | -                          | -                            | -          |
| /NOTDISMOUNTED                    | -                                | -                           | -                          | -                            | -          |
| /NOTVALIDATED                     | -                                | -                           | -                          | -                            | -          |
| /PERM_LOCKED                      | -                                | -                           | -                          | -                            | -          |
| /PHYSICAL                         | -                                | -                           | -                          | -                            | -          |
| /RETIRE                           | -                                | -                           | -                          | -                            | -          |

| COMMAND FORMAT SUMMARY |   |   |   |   |   |
|------------------------|---|---|---|---|---|
| /SITE_ID               | - | - | - | - | - |
| /SPACE                 | - | - | - | - | - |
| /STATE                 | - | - | - | - | - |
| /SYSTEM_ID             | - | - | - | - | - |
| /UNUSED                | - | - | - | - | - |
| /VALIDATED             | - | - | - | - | - |
| /VSET=...              | - | - | - | - | - |
| /WRITELOCKED           | - | - | - | - | - |

## Description

SHOW VOLUME displays volume identification and status information. Some modifiers select information to be displayed for each volume. Other modifiers work in combination with the volume identifier parameter to select volumes to be included.

The /BRIEF command modifier is the default display selection modifier. If you do not specify any overriding display selection modifiers, SHOW VOLUME displays the information listed in the /BRIEF description.

The command displays information about a level F volume under any one of the following conditions:

- The volume ID begins with the letter M, which indicates a level F media type.
- /FIXED is specified.
- /VSET is specified, and it names a level F volume set.
- /FREE\_POOL is specified, and the free pool name begins with the letter F.
- /LOCATION is specified, and it begins with the letter F.

## Parameters

**vid** Specifies the volume identification code (vid) of the volume for which you want to display information.

- **FORMAT:**
  - {media\_type}{recording\_type}{volume\_label}:{side}
  - {media\_type}{recording\_type}{volume\_label}\*
  - {media\_type}{recording\_type}{partial\_volume\_label}\*
  - {media\_type}{recording\_type}\*
  - {media\_type}\*
  - {partial\_media\_type}\*

- \*

The braces “{ }” are not part of the specification. See Appendix B, “Data Field, Parameter, and Modifier Definitions” for a description of the *vid* data field.

- **DEFAULT:** None; you must specify this parameter.
- **RESTRICTION:** If you specify `/PHYSICAL`, you cannot specify a side on *vid*.

## Parameter Modifiers

`/ACTIVE` Indicates that volumes whose status is `ACTIVE` will be selected for display.

- **FORMAT:** `/ACTIVE`
- **DEFAULT:** If you omit the modifier, the system does not select volumes based on their `ACTIVE` status.

`/BRIEF` Displays the following information about a volume:

- `volume_identifier` – media type, recording type, volume label, and side indicator
- `VSET=vset_name` – name of the volume set to which the volume belongs

If the volume is a member of a free pool, the volume set name is in the form `.Lxxmmr` for level L free pools or `.Fxxmmr` for level F free pools. The `Lxx` portion is the device identification code for the library device with the unit number `xx` that contains the free pool. The `Fxx` portion is a level F free pool indicator. The letters `mm` denote a media type, and `r` denotes a recording type for the free pool. See the *StorHouse Concepts and Facilities Manual* for a list of the valid media and recording types.

**Note:** Typically, unless otherwise stated in this manual, free pool volume set names cannot be used on StorHouse commands, because the period (`.`) is an invalid character for user volume set names. `SHOW VOLUME` is an exception.

- `EXTENTS=number` – number of file extents on the volume
- `WRITABLE_SPACE=amount` – available space on the volume.

`/NOBRIEF` inhibits the display of these items, unless you select them for display with other modifiers.

- **FORMAT:** `/BRIEF` or `/NOBRIEF`
- **DEFAULT:** If you omit the modifier, the default is `/BRIEF`.
- **RESTRICTIONS:** `/FULL` overrides `/BRIEF`.



- /DATE** Displays the following:
- `INITIALIZED=date_time` indicates when the volume side was initialized.
  - `LAST_DISMOUNT=date_time` indicates when the volume side was last dismounted.
- If a date has been set to its initial value, but no event has occurred to change it, it is displayed as `01-JAN-1970:00:00:00`.
- **FORMAT:** `/DATE`
  - **DEFAULT:** If you omit `/DATE`, the system does not display `INITIALIZED` and `LAST-DISMOUNT` dates for volumes unless you specified `/FULL`.
- /DEACTIVATED** Selects for display volume sides that are marked deactivated.
- **FORMAT:** `/DEACTIVATED`
  - **DEFAULT:** If you omit the modifier, the system does not select volume sides based on the deactivated attribute.
- /DIRECTORY** Indicates that volumes in the specified directory will be selected for display.
- **FORMAT:**
    - `/DIRECTORY=PRIMARY`
    - `/DIRECTORY=BACKUP`
    - `/DIRECTORY=ARCHIVE`
  - **DEFAULT:** If you omit the modifier, the system does not select volumes based on a specified directory.
  - **/RESTRICTIONS:** `/DIRECTORY`, `/FREE_POOL`, and `/VSET` are mutually exclusive.
- /DISABLED** Indicates that disabled volume sides will be selected for display. Although the volume may not be available, directory information about the volume is still available.
- **FORMAT:** `/DISABLED`
  - **DEFAULT:** If you omit the modifier, `ENABLED` and `DISABLED` volume sides are displayed unless other modifiers restrict the selection of volumes.
- /DISMOUNTED** Selects volumes that have been dismounted since the specified date/time. `/DISMOUNTED` can roughly be interpreted as “used since.” See the “`data_field date-time`” topic for information about absolute and delta time specifications.
- **FORMAT:**

- /DISMOUNTED=absolute\_time
  - /DISMOUNTED =delta\_time
- **DEFAULT:** If you omit /DISMOUNTED, the system does not select volumes based on their LAST\_DISMOUNT timestamps (unless /NOTDISMOUNTED is specified).
  - **RESTRICTIONS:** If both /DISMOUNTED and /NOTDISMOUNTED are specified, the /DISMOUNTED date/time must precede the /NOTDISMOUNTED date/time.
- /ENABLED** Indicates that volume sides that are not disabled will be selected for display. ENABLED volume sides are available for use by the system.
- **FORMAT:** /ENABLED
  - **DEFAULT:** If you omit the modifier, ENABLED and DISABLED volume sides are displayed unless other modifiers restrict the selection of volumes.
- /EXPIRED** Selects for display volume sides that are marked expired.
- **FORMAT:** /EXPIRED
  - **DEFAULT:** If you omit the modifier, the system does not select volume sides based on the expiration attribute.
- /EXTENTS** Displays the number of file extents on the volume side. The /EXTENTS modifier displays as: EXTENTS=number.
- **FORMAT:** /EXTENTS or /NOEXTENTS
  - **DEFAULT:** If you omit /EXTENTS, the number of file extents on the volume side displays unless other modifiers restrict the display of file extents.
- Note:** The /EXTENTS parameter modifier replaces the /FILES modifier. StorHouse accepts both names for this modifier.
- /FIRST\_ALLOCATION** Specifies the time period from which volumes are to be selected based on their first allocation dates. For two-sided volumes, the first allocation dates for both sides must be within the time period.
- **FORMAT:** /FIRST\_ALLOCATION=(from\_date<, to\_date>)
- The from\_date specifies the oldest first allocation date-time, and the to\_date specifies the most recent. You must specify a from\_date. The date-times can be absolute or delta times.

- DEFAULT:
- If you do not specify /FIRST\_ALLOCATION, the command does not select volumes by first allocation date.
- If you specify /FIRST\_ALLOCATION but do not specify a to\_date, the default to\_date is the current date and time (when the command is invoked).

/FIXED Displays information for fixed volumes (level F).

- FORMAT: /FIXED
- DEFAULT: If you omit /FIXED, the volume ID parameter and other modifiers determine whether StorHouse displays information for fixed or removable volumes.
- RESTRICTIONS: If you specify /FIXED, the volume identification code must specify a fixed volume. In addition, other modifiers that you specify must apply to fixed volumes.

/FREE\_POOL Selects for display volumes from the free pool of empty volumes in a library device.

- FORMAT:
  - /FREE\_POOL
  - /FREE\_POOL=L
  - /FREE\_POOL=Lxx
  - /FREE\_POOL=Lxxmm
  - /FREE\_POOL=Lxxmmr
  - /FREE\_POOL=F
  - /FREE\_POOL=Fxx
  - /FREE\_POOL=Fxxmm
  - /FREE\_POOL=Fxxmmr

The letters xx identify either the unit number of the level L device or the level F free pool indicator. The letters mm denote a media type, and r denotes a recording type for the free pool. See the *StorHouse Concepts and Facilities Manual* for a list of the valid media and recording types.

- DEFAULT: If you omit the modifier, the command does not select volumes based on a free pool.

The more fields you specify, the more restrictive is the media selection.

- RESTRICTIONS: /FREE\_POOL, /DIRECTORY, and /VSET are mutually exclusive.

/FULL Displays all available information for a volume. /FULL overrides all other display options.

In addition to the information in the /BRIEF display, /FULL displays:

- DIRECTORY=directory – directory in which the volume resides
- LOCATION=Lxx or Sxx – library or shelf device in which the volume is located
- STATE=state – state of the volume side
- STATE\_CHANGED=date\_time – date and time the state of the volume side was last changed
- SYSTEM\_ID=identifier – system identifier for the volume
- SITE\_ID=identifier – site identifier for the volume
- INITIALIZED=date\_time – date and time the volume was initialized
- LAST\_DISMOUNT=date\_time – date and time the volume was last dismounted
- CREATED=date\_time – absolute date and time the volume was added to the volume set
- MODIFIED=date\_time – absolute date and time the volume was last modified
- FIRST=date\_time – absolute date and time of the first space allocation on the volume side
- LAST=date\_time – absolute date and time of the last space allocation on the volume side
- CYCLE=number\_of\_days – value of the CYCLE attribute for the volume
- DEACTIVATE=number\_of\_days – value of the DEACTIVATE attribute for the volume
- EXPIRE=number\_of\_days – value of the EXPIRE attribute for the volume
- MOUNTS=number – number of mount/dismount cycles for the volume
- WRITABLE\_PERCENT=percent – percentage of writable space available on a volume side
- GENERAL\_FREE=size – number of bytes available for allocation to file sets.
- GENERAL\_ALLOCATED=size – number of bytes allocated to file sets for general usage.
- MEMO=text – user-specified comment about the volume
- HOLD=hold\_attribute – value of the HOLD attribute for the volume.

- `VALIDATE_DATE=date` – volume side's validate date used by the `VALIDATE VOLUME` command. Basically, it indicates the oldest non-validated data on the volume.
- `LAST_VALIDATED=date` – when the last successful validate of the volume side started.

You can calculate the size of deleted space on the volume (space occupied by files that have been deleted and removed on non-rewritable or volume-reusable media) as follows:

$$\text{deleted\_space} = \text{volume\_size} - \text{general\_free} - \text{general\_allocated}$$

Sizes are displayed in 1000-byte units and followed by the letters KB. If a size is not a multiple of 1000 bytes, the system rounds it down for display.

- `FORMAT: /FULL`
- `DEFAULT:` If you omit `/FULL`, the command displays information based on other modifiers specified. If you omit `/FULL` and do not specify any other modifiers, the command displays the information selected by `/BRIEF—vid`, volume set name, number of file extents, and number of bytes of writable space.

`/HOLD` Selects volumes for display based on the value of the volume's `HOLD` attribute. `/HOLD` selects volumes with an attribute value of `HOLD`. `/NOHOLD` selects volumes with an attribute value of `NOHOLD`. The `HOLD` attribute applies to all sides of a multisided volume. The attribute displays as follows:

`HOLD=value`

where `value` is either `HOLD` or `NOHOLD`.

- `FORMAT: /HOLD` or `/NOHOLD`
- `DEFAULT:` If you omit the modifier, the `HOLD` attribute is not used to select volumes.

`/LAST_ALLOCATION` Specifies the time period when volumes are to be selected based on their last allocation dates. For two-sided volumes, the last allocation dates for both sides must be within the time period.

- `FORMAT: /LAST_ALLOCATION=(from_date<, to_date>)`
- The `from_date` specifies the oldest last allocation date-time, and the `to_date` specifies the most recent. You must specify a `from_date`. The date-times can be absolute or delta times.

`/LOCATION` Selects volumes in the specified location for display.

- **FORMAT:**
  - /LOCATION=L
  - /LOCATION=Lxx
  - /LOCATION=S
  - /LOCATION=Sxx
  - /LOCATION=F
  - /LOCATION=Fxx

where L is a library-level device, S is shelf storage, F is fixed storage, and xx is the unit number for the device.

- **DEFAULT:** If you omit /LOCATION, the command does not select volumes based on their location.

**/MEMO** Displays the comment that a user added to the StorHouse system files with the MOVE VOLUME, SET VOLUME, MOVE VSET, or SET VSET command. This modifier also selects volumes with the specified memo. Because the comment applies to the entire volume, the system will display the same comment whether you specify the /MEMO modifier for side A or side B.

- **FORMAT:** /MEMO, /MEMO=value, or /NOMEMO

where value is the user-specified comment about the volume. The value can include one or more wildcards. You must enclose the value field in quotes if the memo contains special characters or you do not want to have lowercase characters translated to uppercase characters.

- **DEFAULT:** /NOMEMO, unless you specify /FULL.

**/MOUNTS** Displays the number of mount-dismount cycles for a volume side.

**MOUNTS=number**

Number represents the number of times the volume side has been mounted in a drive for reading or writing and then dismounted. The system increments the count for the side(s) when it dismounts the volume but not when it mounts the volume.

- **FORMAT:** /MOUNTS
- **DEFAULT:** If you omit /MOUNTS, the display of the number of mounts is controlled by other modifiers.

**/NEEDS\_CLEANING** Displays the volume sides for which the NEEDS\_CLEANING state is set.

- **FORMAT:** /NEEDS\_CLEANING
- **DEFAULT:** If you omit /NEEDS\_CLEANING, the system does not select volume sides based on the NEEDS\_CLEANING state.

- /NOTDISMOUNTED** Selects volumes that have not been dismounted since the specified date/time. **/NOTDISMOUNTED** can roughly be interpreted as “not used since.” See the “data\_field date-time” topic for information about absolute and delta time specifications.
- **FORMAT:**
    - **/NOTDISMOUNTED=absolute\_time**
    - **/NOTDISMOUNTED=delta\_time**
  - **DEFAULT:** If you omit **/NOTDISMOUNTED**, the system does not select volumes based on their **LAST\_DISMOUNT** timestamps (unless **/DISMOUNTED** is specified).
  - **RESTRICTIONS:** If both **/DISMOUNTED** and **/NOTDISMOUNTED** are specified, the **/DISMOUNTED** date/time must precede the **/NOTDISMOUNTED** date/time.
- /NOTVALIDATED** Selects written volumes that have not been validated or that have not been validated since the specified date/time. For a full description of the absolute time and delta time data fields, see Appendix B, “Data Field, Parameter, and Modifier Definitions,” in the *Command Language Reference Manual*.
- Note the following. **/NOTVALIDATED** uses the **LAST\_VALIDATED** timestamp for the volume while the **VALIDATE VOLUME** command (with **/VALIDATE\_DATE**) selects volumes based on the **VALIDATE\_DATE** timestamp. Therefore, if you want to see which volumes would be selected by a **VALIDATE VOLUME** command, do not use **SHOW VOLUME /NOTVALIDATED**. Use **VALIDATE VOLUME /PREVIEW** instead.
- **FORMAT:**
    - **/NOTVALIDATED**
    - **/NOTVALIDATED=absolute\_time**
    - **/NOTVALIDATED=delta\_time**
- For a full description of the absolute time and delta time data fields, see Appendix B, “Data Field, Parameter, and Modifier Definitions,” in the *Command Language Reference Manual*.
- **DEFAULT:** If you omit **/NOTVALIDATED**, the system does not select volumes based on their **LAST\_VALIDATED** timestamps (unless **/VALIDATED** is specified).
  - **RESTRICTIONS:** If both **/VALIDATED** and **/NOTVALIDATED** are specified, the **VALIDATED** date/time must precede the **NOTVALIDATED** date/time.
- /PERM\_LOCKED** Displays the volume sides for which the **PERM\_LOCKED** state is set.
- **FORMAT:** **/PERM\_LOCKED**

- DEFAULT: If you omit /PERM\_LOCKED, the system does not select volume sides based on the PERM\_LOCKED state.
- /PHYSICAL Indicates that physical volumes, rather than logical volumes (volume sides), will be selected for display.
- FORMAT: /PHYSICAL
  - DEFAULT: If you omit the modifier, the system displays information for logical volumes (volume sides).
  - /RESTRICTIONS:
    - /PHYSICAL is mutually exclusive with all side-oriented display modifiers (/DATE, /EXTENTS, /FILES, /MOUNTS, /SPACE, and /STATE).
    - If you specify /PHYSICAL, you cannot specify a side specification on the vid parameter.
- /RETIRE Displays the volume sides that should be retired, either because they are in the RETIRE state (media is degraded) or the volume mount count is exceeded.
- FORMAT: /RETIRE
  - DEFAULT: If you omit /RETIRE, the system does not select volume sides based on the RETIRE state.
- /SITE\_ID Displays the site identifier recorded in the volume label record on the volume. The /SITE\_ID parameter displays as: SITE\_ID=site\_identifier.
- FORMAT: /SITE\_ID
  - DEFAULT: If you omit /SITE\_ID, the display of the site identifier is controlled by other modifiers.
- /SPACE Displays the amount of writable space on a volume side. /SPACE is given in units of 1000 bytes (KB). The /SPACE modifier displays as: WRITABLE\_SPACE=numberKB.
- FORMAT: /SPACE or /NOSPACE
  - DEFAULT: If you omit /SPACE, the display of the amount of writable space is controlled by other modifiers.
- /STATE Displays the state of the volume side and the date the volume's state was last changed.
- STATE\_CHANGED=date\_time indicates when the state of the volume side was last changed. The date\_time changes only when a volume is labeled or relabeled (in other words, a change occurs that affects either the BLANK or INITIALIZED state).



If a date has been set to its initial value of zero, but no event has occurred to change it, it is displayed as 01-JAN-1970:00:00:00.

- STATE=(states) indicates if one or more of the following states are true for the volume side:

| State          | Definition                                                                                                                                                                                                                           |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ACTIVE         | Currently in use (has active requests, such as transfers or remove extent requests). In-process and queued requests are both considered active requests.                                                                             |
| BLANK          | Has not been initialized.                                                                                                                                                                                                            |
| CATALOGED      | Is available for normal use.                                                                                                                                                                                                         |
| CATALOGING     | Is not available for use. Can only be cataloged or is currently being cataloged.                                                                                                                                                     |
| DEACTIVATED    | Additional storage allocations are not allowed. You can read data on a DEACTIVATED volume side.                                                                                                                                      |
| DISABLED       | Unusable. Typically, a volume side(s) is marked DISABLED if it is missing, physically damaged, or has excessive I/O errors.                                                                                                          |
| ERASING        | Is not available for use. Can only be erased or is currently being erased.                                                                                                                                                           |
| EXPIRED        | The volume side is marked as expired (the files are ready to be removed from the system). Additional storage allocations are not allowed. You can read data on an EXPIRED volume side.                                               |
| INITIALIZED    | A volume label record has been written on the volume side.                                                                                                                                                                           |
| NEEDS_CLEANING | The volume side should be cleaned.                                                                                                                                                                                                   |
| PERM_LOCKED    | Due to the condition of the media, the volume side is permanently writelocked. You can read data on a PERM_LOCKED volume side.                                                                                                       |
| RETIRE         | Due to the condition of the media, the volume should be retired. The media may have exceeded its mount count. Additional storage allocations are not allowed. You may not be able to read data on a volume side in the RETIRE state. |
| UNCATALOGED    | Is not available for use. Can only be cataloged, exported, or erased.                                                                                                                                                                |
| UNCATALOGING   | Is not available for use. Can only be uncataloged or is currently being uncataloged.                                                                                                                                                 |
| WRITELOCKED    | Additional storage allocations are not allowed unless the volume side is unwritelocked. You can read data on a WRITELOCKED volume side.                                                                                              |
| ?              | The state of the volume side is unknown.                                                                                                                                                                                             |

If two or more states are true, the states are separated by a comma and a space. Two examples of the /STATE display are:

- STATE=(INITIALIZED)

- STATE=(DEACTIVATED, EXPIRED)

The format and default of /STATE are shown as follows:

- FORMAT: /STATE
- DEFAULT: If you omit /STATE, the display of the state of the volume is controlled by other modifiers.

**/SYSTEM\_ID** Displays the system identifier recorded in the volume label record on the volume. The /SYSTEM\_ID modifier displays as: SYSTEM\_ID=system\_identifier.

- FORMAT: /SYSTEM\_ID
- DEFAULT: If you omit /SYSTEM\_ID, the display of the system identifier is controlled by other modifiers.

**/UNUSED** Selects volumes that have no more than a specified percentage or amount of their writable space remaining. For two-sided volumes, the unused space for each side must be within the percentage or amount. You can use this modifier to select volumes that do not have enough writable space left to hold a normal file or extent.

When using percentages, be aware of the sizes of volumes. For example, one percent of a one-gigabyte volume is 10 megabytes, which may be smaller than your normal file or extent size. On the other hand, one percent of a 10-gigabyte volume is 100 megabytes, which may be larger than your normal file or extent size.

**Note:** Note: It is unlikely that there will be volumes with none of their writable space remaining.

- FORMAT:
  - /UNUSED=number\_of\_bytes
  - /UNUSED=percentageP

The value for number\_of\_bytes can range from 0 up to 4,294,967,295 (do not use commas in the specification). Use K to indicate 1,000-byte units, M to indicate 1,000,000-byte units, and G to indicate 1,000,000,000-byte units. If you do not specify K, M, or G, the number defaults to 1-byte units. The value for percentage can range from 0 to 100 and must be followed by the letter P.

- DEFAULT: If you omit /UNUSED, the command does not select volumes based on remaining writable space.

**/VALIDATED** Selects written volumes that have been validated or that have been validated since the specified date/time. (Because StorHouse only validates written volumes, the /VALIDATED display contains the most relevant list of volumes and excludes freepool volumes and cleaning cartridges.)

- FORMAT:
  - /VALIDATED
  - /VALIDATED=absolute\_time
  - /VALIDATED=delta\_time

For a full description of the absolute time and delta time data fields, see Appendix B, “Data Field, Parameter, and Modifier Definitions,” in the *Command Language Reference Manual*.

- DEFAULT: If you omit /VALIDATED, the system does not select volumes based on their LAST\_VALIDATED timestamps (unless /NOTVALIDATED is specified).
- RESTRICTIONS: If both /VALIDATED and /NOTVALIDATED are specified, the VALIDATED date/time must precede the /NOTVALIDATED date/time.

**/VSET** Displays volumes that make up the specified volume set.

- FORMAT: /VSET=vset\_name
- FORMAT RESTRICTIONS: Wild cards are not allowed.
- DEFAULT: If you do not specify /VSET, the system does not use the volume set name to select volumes. (That is, all volumes are displayed unless restricted by other modifiers.)
- RESTRICTIONS: /FREE\_POOL, /DIRECTORY, and /VSET are mutually exclusive.

**/WRITELOCKED** Displays volume sides with the writelocked attribute. /NOWRITELOCKED indicates that volume sides that do not have the writelocked attribute will be displayed.

- FORMAT: /WRITELOCKED or /NOWRITELOCKED
- DEFAULT: The system uses the writelocked attribute of a volume side as a selection criterion for SHOW VOLUME only if you specify /WRITELOCKED or /NOWRITELOCKED.

## Examples

- To display information for side A of the volume OAD242F38AD, enter:

```
? SHOW VOLUME OAD242F38AD:A
```

The system displays the following information:

```
OAD"242F38AD":A VSET=USERVSET EXTENTS=3
WRITABLE_SPACE=10224KB
```

StorHouse displays the name of the volume set to which the volume belongs, the number of file extents on the volume side, and the amount of writable space on the side, in 1000-byte units.

- To display all available information for all volumes in the volume set MYVSET, enter:

```
? SHOW VOLUME * /VSET=MYVSET /FULL
```

/VSET is typically used when the volume identification code (vid) contains the StorHouse wild card character (here, the asterisk).

- To display information for volumes in the free pool in library device 0 for media and recording type OAD, enter:

```
? SHOW VOLUME * /FREE_POOL=L00OAD
```

The system displays the following information:

```
OAD"244A351B":A VSET=.L00OAD EXTENTS=0 WRITABLE_SPACE=3504900KB
OAD"244A351B":B VSET=.L00OAD EXTENTS=0 WRITABLE_SPACE=3504900KB
```

```
OAD"25684712":A VSET=.L00OAD EXTENTS=0 WRITABLE_SPACE=3504900KB
OAD"25684712":B VSET=.L00OAD EXTENTS=0 WRITABLE_SPACE=3504900KB
```

```
OAD"2E3268C1":A VSET=.L00OAD EXTENTS=0 WRITABLE_SPACE=3504900KB
OAD"2E3268C1":B VSET=.L00OAD EXTENTS=0 WRITABLE_SPACE=3504900KB
```

Total volume sides displayed=6

- To display the number of mount-dismount cycles for side A of volume OAD242F38AD, enter:

```
? SHOW VOLUME OAD242F38AD:A /NOBRIEF /MOUNTS
```

The system displays the following information:

```
OAD"242F38AD":A MOUNTS=0
```

- To display the memo for the volume OAD242F38AD, enter:

```
? SHOW VOLUME OAD242F38AD:A /MEMO
```

The system displays the memo for this volume:

```
OAD"242F38AD":A VSET=MAR00 EXTENTS=0
WRITABLE_SPACE=10229KB MEMO="Rack 3 Slot 11"
```

- To display all volumes that have the words "Rack 3" in the memo, enter:

```
? SHOW VOLUME * /MEMO="*Rack 3*"
```

The system displays the list of volumes:

```
OAD"2DC11832":A VSET=MAR00 EXTENTS=2559
WRITABLE_SPACE=14302KB MEMO="Rack 3 Slot 11"
OAD"2DC11832":B VSET=MAR00 EXTENTS=1811
WRITABLE_SPACE=37097KB MEMO="Rack 3 Slot 11"
```

```
OAD"2DE4D5C5":A VSET=MAR00 EXTENTS=1154
WRITABLE_SPACE=34319KB MEMO="Room 2 Rack 3 Slot 14"
OAD"2DE4D5C5":B VSET=MAR00 EXTENTS=1126
WRITABLE_SPACE=34063KB MEMO="Room 2 Rack 3 Slot 14"
```

```
OAD"2DE4D630":A VSET=MAR00 EXTENTS=4055
WRITABLE_SPACE=40402KB MEMO="Rack 3 Slot 20"
OAD"2DE4D630":B VSET=MAR00 EXTENTS=1369
WRITABLE_SPACE=35339KB MEMO="Rack 3 Slot 20"
```

Total volume sides displayed=6

- To display all available information for the volumes in the volume set USERVSET, enter:

```
? SHOW VOLUME * /VSET=USERVSET /FULL
```

The system displays the following information:

```
OAD"242F38AD":A VSET=USERVSET DIRECTORY=PRIMARY
LOCATION=L00 STATE=(INITIALIZED) STATE_CHANGED=28-MAR-
1999:08:04:29 SYSTEM_ID=123456 SITE_ID=SGI INITIALIZED=28-MAR-
1999:07:48:19 LAST_DISMOUNT=01-JAN-1999:00:00:00
CREATED=28-MAR-1999:07:54:07 MODIFIED=29-MAR-1999:19:07:14
FIRST=28-MAR-1999:07:54:27 LAST=29-MAR-1999:19:03:26 CYCLE=0
DEACTIVATE=0 EXPIRE=0 EXTENTS=3 MOUNTS=2
WRITABLE_SPACE=10224KB WRITABLE_PERCENT=0
GENERAL_FREE=8375KB GENERAL_ALLOCATED=1854KB
MEMO="Rack 3 Slot 11" HOLD=NOHOLD
```

```
OAD"242F38AD":B VSET=USERVSET DIRECTORY=PRIMARY
LOCATION=L00 STATE=(INITIALIZED) STATE_CHANGED=28-MAR-
1999:07:48:23 SYSTEM_ID=123456 SITE_ID=SGI INITIALIZED=28-MAR-
1999:07:48:23 LAST_DISMOUNT=28-MAR-1999:08:04:29 CREATED=28-
MAR-1999:07:54:08 MODIFIED=28-MAR-1999:07:54:08 FIRST=01-JAN-
1999:00:00:00 LAST=01-JAN-1999:00:00:00 CYCLE=0 DEACTIVATE=0
EXPIRE=0 EXTENTS=0 MOUNTS=1 WRITABLE_SPACE=10229KB
WRITABLE_PERCENT=0 GENERAL_FREE=10229KB
GENERAL_ALLOCATED=0KB MEMO="Rack 3 Slot 11" HOLD=NOHOLD
```

Total volume sides displayed=2

- To display all volumes in the BACKUP directory, enter:

```
? SHOW VOLUME * /DIRECTORY=BACKUP
```

The system displays the list of volumes in that directory:

```
OEB"2E1C1AAF":A VSET=APR00 EXTENTS=43
WRITABLE_SPACE=975229KB
OEB"2E1C1AAF":B VSET=APR00 EXTENTS=0
WRITABLE_SPACE=1009528KB
```

Total volume sides displayed=2

- To display all volumes that need to be loaded from shelf to satisfy pending requests, enter:

```
? SHOW VOLUME * /PHYSICAL /NOBRIEF /ACTIVE /LOCATION=S
```

The system displays:

```
OAB"C0000002"
OAB"C0000006"
```

Total physical volumes displayed=2

- To display all volumes in the MYVSET volume set that need to be retired, enter:

```
? SHOW VOLUME * /VSET=MYVSET /RETIRE
```

- To show basic information for all level F volumes, enter:

```
? SHOW VOLUME * /FIXED
```

```
MIA"F00":A VSET=MAGDISK
MIA"F01":A VSET=MAGDISK
MEA"F02":A VSET=.F00MEA
MEA"F03":A VSET=.F00MEA
MEA"F04":A VSET=BOB
MEA"F05":A VSET=FBACKUP
MEA"F06":A VSET=.F00MEA
MEA"F07":A VSET=VSET2
MEA"F08":A VSET=VSET2
MEA"F09":A VSET=.F00MEA
MEA"F0A":A VSET=.F00MEA
MEA"F0B":A VSET=.F00MEA
```

Total volume sides displayed=12

- To show all information for volume MIA"F00":A, enter:

```
? SHOW VOLUME MIA"F00":A /FULL
```

```
MIA"F00":A VSET=MAGDISK DIRECTORY=PRIMARY LOCATION=F00
CREATED=30-JAN-2006:11:29:18 MODIFIED=15-MAR-2006:00:15:01
FIRST=30-JAN-2006:11:30:15 LAST=15-MAR-2006:00:15:00
```

```
GENERAL_FREE=0KB
GENERAL_ALLOCATED=63488000KB
```

- To show basic information for all volumes in the free pool .F00MEA, enter:

```
? SHOW VOLUME * /FREE_POOL=F00MEA
```

```
MEA"F02":A VSET=.F00MEA
MEA"F03":A VSET=.F00MEA
MEA"F06":A VSET=.F00MEA
MEA"F09":A VSET=.F00MEA
MEA"F0A":A VSET=.F00MEA
MEA"F0B":A VSET=.F00MEA
```

```
Total volume sides displayed=6
```

Note that you do not use the period (.) when specifying the free pool volume set name.

## SHOW VSET

The SHOW VSET command displays information about a volume set.

### Format

SHOW VSET vset\_name

| COMMAND FORMAT SUMMARY         |                              |                       |                      |                        |                 |
|--------------------------------|------------------------------|-----------------------|----------------------|------------------------|-----------------|
| COMMAND PARAMETER, OR MODIFIER | REQUIRED COMMAND PRIVILEGE   | REQUIRED GROUP ACCESS | REQUIRED FILE ACCESS | MINIMUM ACCOUNT ACCESS | DEFAULT         |
| SHOW VSET                      | SHOW or ALLOCATION or SYSTEM | -                     | -                    | -                      | -               |
| vset_name                      | -                            | -                     | -                    | -                      | Current default |
| /DIRECTORY=...                 | -                            | -                     | -                    | -                      | -               |
| /FREE_POOL                     | -                            | -                     | -                    | -                      | -               |
| /FULL                          | -                            | -                     | -                    | -                      | -               |
| /HOLD                          | -                            | -                     | -                    | -                      | -               |
| /LIBRARY=...                   | -                            | -                     | -                    | -                      | -               |
| /MEDIA=...                     | -                            | -                     | -                    | -                      | -               |
| /MEMO=...                      | -                            | -                     | -                    | -                      | -               |
| /NOHOLD                        | -                            | -                     | -                    | -                      | -               |

### Description

If you do not specify any modifiers, the system displays the following information:

- VSET=vset\_name indicates the name of the volume set.
- DIRECTORY=directory\_name indicates the name of the directory to which the volume set belongs.
- SIZE=size displays the size of the volume set.
- SURFACES=number\_of\_surfaces displays the number of volume surfaces (sides) in the volume set.
- GENERAL\_FREE=size displays the number of bytes available for allocation to file sets.



- MEDIA={media\_type}{recording\_type} identifies the type of media on which the volume set is allocated.

Sizes are displayed in 1000-byte units and followed by the letters KB. If a size is not a multiple of 1000 bytes, the system rounds it down for display.

## Parameters

**vset\_name** Specifies the name of the volume set for which information is to be displayed.

- **FORMAT:**
  - vset\_name
  - partial\_vset\_name\*
  - \*
- **DEFAULT:** If you omit the parameter, the default is your current default volume set name.

## Parameter Modifiers

**/DIRECTORY** Selects for display volume sets located in the specified directory.

- **FORMAT:**
  - /DIRECTORY=ARCHIVE
  - /DIRECTORY=BACKUP
  - /DIRECTORY=PRIMARY
- **DEFAULT:** If you omit /DIRECTORY, the system does not select volume sets by directory.

**/FREE\_POOL** Selects free pool volume sets for display

- **FORMAT:** /FREE\_POOL
- **DEFAULT:** If you omit /FREE\_POOL, the command selects user volume sets for display.
- **RESTRICTIONS:** /FREE\_POOL is mutually exclusive with /DIRECTORY, /HOLD, /MEMO, and /NOHOLD.

**/FULL** Displays all available information for a volume set.

/FULL displays the same information as the default display, plus the following:

- **LIMIT=size** displays the value of the LIMIT attribute for the volume set.

- `GENERAL_ALLOCATED=size` displays the number of bytes allocated to file sets for general usage.
- `CREATED=date_time` displays the absolute date and time the volume set was created.
- `MODIFIED=date_time` displays the absolute date and time the volume set was last modified.
- `CYCLE=number_of_days` displays the value of the `CYCLE` attribute for the volume set.
- `DEACTIVATE=number_of_days` displays the value of the `DEACTIVATE` attribute for the volume set.
- `EXPIRE=number_of_days` displays the value of the `EXPIRE` attribute for the volume set.
- `HOLD=HOLD` or `NOHOLD` displays the value of the `HOLD` attribute for the volume set.
- `LIBRARY=Lxx` or `Fxx` displays the device identification code of the device that contains the pool of empty volumes from which this volume set may be extended.
- `MEMO=text` displays the user-specified comment about this volume set for the *first* volume in the set. If there are no volumes in the volume set, the memo displays as blank.
- `ARCVSET=vset_name` displays the default destination volume set that will contain archive copies of the files in the primary volume set.
- `ARCFSET=fset_name` displays the default destination file set that will contain archive copies of the primary files.
- `BKPVSET=vset_name` displays the default destination volume set that will contain backup copies of the files in the primary volume set.
- `BKPFSET=fset_name` displays the default destination file set that will contain backup copies of the primary files.

The size of deleted space in the volume set (space occupied by the files that have been deleted and removed on non-rewritable and volume-reusable media) can be calculated as follows:

$$\text{deleted\_space} = \text{vset\_size} - \text{general\_free} - \text{general\_allocated}$$

Sizes are displayed in 1000-byte units and followed by the letters KB. If a size is not a multiple of 1000 bytes, the system rounds it down for display.

- FORMAT: /FULL
  - DEFAULT: If you omit /FULL, the command displays the information listed in the command description.
  - PRIVILEGE: None.
- /HOLD Selects for display volume sets that have the HOLD attribute set to HOLD.
- FORMAT: /HOLD
  - DEFAULT: If you omit /HOLD, the system does not select volume sets by the HOLD attribute of HOLD.
- /LIBRARY Selects for display volume sets whose free pool of empty volumes is located in the specified library device.
- FORMAT: /LIBRARY=Lxx
  - DEFAULT: If you omit /LIBRARY, the system does not select volume sets by library device.
- /MEDIA Selects for display volume sets that reside on the specified media/recording type.
- FORMAT: /MEDIA=mmr, /MEDIA=mm, or /MEDIA=m
  - DEFAULT: If you omit /MEDIA, the system does not select volume sets by media/recording type.
- /MEMO Displays the comment that a user added to the StorHouse system files with the MOVE VOLUME, SET VOLUME, MOVE VSET, or SET VSET command. It also selects volume sets with the specified memo. This modifier displays the memo for the first volume in the volume set.
- FORMAT: /MEMO, /MEMO=value, or /NOMEMO
- where *value* is the user-specified comment about the first volume in the volume set. The *value* can include one or more wildcards. You must enclose the *value* field in quotes if you want to enter special characters or do not want to have lowercase characters translated to uppercase characters.
- DEFAULT: /NOMEMO, unless you specify /FULL.
- /NOHOLD Selects for display volume sets that have the HOLD attribute set to NOHOLD.
- FORMAT: /NOHOLD
  - DEFAULT: If you omit /NOHOLD, the system does not base selection on whether a volume set has the HOLD attribute set to NOHOLD.

## Examples

- To display information about the volume set USERVSET, enter:

```
? SHOW VSET USERVSET
```

The system displays the following information:

```
VSET=USERVSET DIRECTORY=PRIMARY SIZE=20459KB SURFACES=2
GENERAL_FREE=18604KB MEDIA=OAD
```

Total vsets displayed=1

The information displayed includes the name of the volume set, its directory location, its size in 1000-byte units, the number of surfaces (volume sides) in the volume set, the number of bytes available for file set allocation, and the kind of media (media type and recording type).

- To display all available information for the user's default volume set, enter:

```
? SHOW VSET /FULL
```

The system displays the following information:

```
VSET=USERVSET DIRECTORY=PRIMARY SIZE=20459KB SURFACES=2
GENERAL_FREE=18604KB MEDIA=OAD LIMIT=0KB
GENERAL_ALLOCATED=1854KB CREATED=28-MAR-2000:07:54:08
MODIFIED=29-MAR-2000:19:07:14 CYCLE=0 DEACTIVATE=0 EXPIRE=0
HOLD=NOHOLD LIBRARY=L00 ARCVSET=none ARCFSET=*
BKPVSET=none BKPFSET=* MEMO="Rack 4"
```

Total vsets displayed=1

If you omit the volume set name, StorHouse displays information for your default volume set.

SHOW VSET displays the memo for the first volume in the volume set.

- To display all volume sets in the PRIMARY directory, enter:

```
? SHOW VSET * /DIRECTORY=PRIMARY
```

The system displays the following information:

```
VSET=CHKPOINT DIRECTORY=PRIMARY SIZE=10095288KB
SURFACES=10 GENERAL_FREE=0KB MEDIA=OEB
```

```
VSET=MAGDISK DIRECTORY=PRIMARY SIZE=2737170KB SURFACES=2
GENERAL_FREE=1170KB MEDIA=MAA
```

```
VSET=USERVSET DIRECTORY=PRIMARY SIZE=20459KB SURFACES=2
GENERAL_FREE=18604KB MEDIA=OAD
```

Total vsets displayed=3

- To display the memo for the volume set MAR00, enter:

```
? SHOW VSET MAR00 /MEMO
```

The system displays the memo for the first volume in this volume set:

```
VSET=MAR00 DIRECTORY=PRIMARY SIZE=10095288KB SURFACES=10
GENERAL_FREE=1009611KB MEDIA=OEB MEMO="Rack 4"
```

- To display all volume sets that have a memo of "Rack 4", enter:

```
? SHOW VSET * /MEMO="Rack 4"
```

The system displays the list of volume sets:

```
VSET=DEMO00 DIRECTORY=PRIMARY SIZE=4038115KB SURFACES=4
GENERAL_FREE=1009528KB MEDIA=OEB MEMO="Rack 4"
```

```
VSET=MAR00 DIRECTORY=PRIMARY SIZE=10095288KB SURFACES=10
GENERAL_FREE=1009611KB MEDIA=OEB MEMO="Rack 4"
```

```
VSET=TEST00 DIRECTORY=PRIMARY SIZE=2019057KB SURFACES=2
GENERAL_FREE=1009528KB MEDIA=OEB MEMO="Rack 4"
```

Total volume sets displayed=3

- To display basic information for all free pool volume sets, enter:

```
SHOW VSET * /FREE_POOL
```

```
VSET=.F00MEA DIRECTORY=none SIZE=69927076KB SURFACES=7
MEDIA=MEA
```

```
VSET=.F00MIA DIRECTORY=none SIZE=0KB SURFACES=0 MEDIA=MIA
```

```
VSET=.L00TDA DIRECTORY=none SIZE=343298410KB SURFACES=17
MEDIA=TDA
```

```
VSET=.L00TDZ DIRECTORY=none SIZE=0KB SURFACES=0 MEDIA=TDZ
```

```
VSET=.L01OEA DIRECTORY=none SIZE=0KB SURFACES=0 MEDIA=OEA
```

```
VSET=.L01OEB DIRECTORY=none SIZE=10095288KB SURFACES=10
MEDIA=OEB
```

```
VSET=.L01OEC DIRECTORY=none SIZE=0KB SURFACES=0 MEDIA=OEC
```

```
VSET=.L01OED DIRECTORY=none SIZE=31236317KB SURFACES=24
MEDIA=OED
```

```
VSET=.L02TDA DIRECTORY=none SIZE=0KB SURFACES=0 MEDIA=TDA
```

```
VSET=.L02TDZ DIRECTORY=none SIZE=0KB SURFACES=0 MEDIA=TDZ
```

- To display all information for free pool volume set .L02TDZ, enter:

```
? SHOW VSET .L02TDZ ?FREE_POOL /FULL
```

```
VSET=.L02TDZ DIRECTORY=none SIZE=0KB SURFACES=0 MEDIA=TDZ
CREATED=11-MAR-2004:14:30:35 MODIFIED=22-MAR-2006:11:14:50
LIBRARY=L02
```

# SHUTDOWN

The SHUTDOWN command initiates a shutdown of the StorHouse software.

## Format

SHUTDOWN <"message">

| COMMAND FORMAT SUMMARY         |                            |                       |                      |                        |               |
|--------------------------------|----------------------------|-----------------------|----------------------|------------------------|---------------|
| COMMAND PARAMETER, OR MODIFIER | REQUIRED COMMAND PRIVILEGE | REQUIRED GROUP ACCESS | REQUIRED FILE ACCESS | MINIMUM ACCOUNT ACCESS | DEFAULT       |
| SHUTDOWN                       | OPERATOR                   | -                     | -                    | -                      | -             |
| /CANCEL                        | -                          | -                     | -                    | -                      | -             |
| /CONFIRM                       | -                          | -                     | -                    | -                      | /CONFIRM      |
| /DELAY=...                     | -                          | -                     | -                    | -                      | /DELAY=0      |
| /NOW                           | -                          | -                     | -                    | -                      | -             |
| /TIMEOUT=...                   | -                          | -                     | -                    | -                      | /TIMEOUT=1440 |
| message                        | -                          | -                     | -                    | -                      | Null string   |

## Description

SHUTDOWN notifies users that StorHouse is shutting down and stops the StorHouse software in a controlled manner.

In a controlled shutdown, the system allows all existing user commands and scheduled events to complete before the shutdown begins. It allows background functions, such as backup and migration functions, to complete their current file transfer or similar activity, but it does not allow them to initiate new activities. It allows users to sign off, but does not allow users (other than the initiator of the SHUTDOWN) to enter new commands. After all commands and events have completed, the system software performs housekeeping tasks and then stops.

If you use /NOW, the system shuts down immediately. This may leave the system in an unsettled state, which causes additional recovery processing during the next startup.

If you specify /DELAY, the system notifies users of the planned shutdown but waits the specified /DELAY time before actually starting a controlled shutdown. During the /DELAY period, users can sign on and off and enter commands as normal; however, the system broadcasts the SHUTDOWN message and remaining /DELAY time periodically except to Callable Interface users. The same information appears in sign-on messages.

If you specify `/TIMEOUT`, the system proceeds with a controlled shutdown until the specified `/TIMEOUT` period has expired. When the `/TIMEOUT` expires, the system aborts all user commands that have not completed and then completes the shutdown.

This command initiates the shutdown process or starts the `/DELAY` timer and then completes. It does not wait for the shutdown to complete before it returns. The user can cancel the SHUTDOWN (see `/CANCEL`) if the `/DELAY` period has not expired. As the initiator of the SHUTDOWN command, you can continue to enter commands until either the `/TIMEOUT` period expires or the last user command completes.

You can send a message to all interactive StorHouse users notifying them of the impending shutdown. If `/TIMEOUT` expires or if you specify `/NOW`, no message is broadcast to users before the shutdown takes place.

You can schedule SHUTDOWN using the SCHEDULE command.

## Parameters

`message` Broadcasts a text message to all users who are signed on and to any user who signs on during the delay period. The system may rebroadcast the message periodically during the delay period. The message display interval is one-half the remaining time for any delay period over one minute. This interval is not configurable.

- **FORMAT:** Character string

Character strings must consist of the printable ASCII characters. StorHouse translates lowercase letters to uppercase letters, unless the string is enclosed in quotes. If `message` contains special characters (defined in Appendix B), it must be enclosed in quotes. See Appendix B, "Data Field, Parameter, and Modifier Definitions" for a description of the character string data field.

- **DEFAULT:** If you do not specify the parameter, the default is a null string.

## Command Modifiers

`/CANCEL` Terminates a delayed shutdown (where `/DELAY` was specified with a time) that was initiated previously. The system ignores or rejects the request to cancel the shutdown if the delay time has expired.

- **FORMAT:** `/CANCEL`
- **DEFAULT:** If you omit `/CANCEL`, the command action is controlled by other modifiers.



- /CONFIRM** Controls whether StorHouse asks you to confirm the command.
- **FORMAT:** /CONFIRM or /NOCONFIRM
  - **DEFAULT:** /CONFIRM
- When the system requests a confirmation, enter YES (also Y or YE) or NO (also N). If you press R or enter any characters other than those described as a YES response, StorHouse interprets them as NO.
- /DELAY** Specifies the amount of time (in minutes) that the system will wait before starting the shutdown procedure.
- **FORMAT:** /DELAY=minutes
- The maximum value is 65535 minutes.
- **DEFAULT:** /DELAY=0 (no delay)
- /NOW** Terminates all activity immediately.
- **FORMAT:** /NOW
- /NOW is equivalent to /TIMEOUT=0 and /DELAY=0, except that it does not complete as a controlled shutdown.
- **DEFAULT:** If you do not specify this modifier, the system will wait for the /TIMEOUT to expire before shutting down.
  - **RESTRICTIONS:** If you specify a /TIMEOUT or /DELAY in addition to /NOW, the system returns an error.
- /TIMEOUT** Specifies the maximum number of minutes the system will wait, after any /DELAY has expired, for all user activity to complete before aborting any remaining transactions.
- **FORMAT:** /TIMEOUT=minutes
- The maximum value is 65535 minutes.
- **DEFAULT:** /TIMEOUT=1440 (24 hours)

## Examples

- To shut down StorHouse, aborting all StorHouse operations and user sessions immediately, enter:

```
? SHUTDOWN /NOW
```

- To notify all users that StorHouse will begin shutdown in 10 minutes, enter:

```
? SHUTDOWN "StorHouse is shutting down in 10 minutes" /DELAY=10 /TIMEOUT=30
```

When the /DELAY period expires (after 10 minutes), users can no longer enter new commands. If StorHouse is executing any commands or other operations when the /DELAY period expires, StorHouse continues to execute these commands until they are completed or the /TIMEOUT period of 30 minutes expires, whichever comes first. If the /TIMEOUT expires, StorHouse aborts all operations and shuts down.

- To cancel the StorHouse SHUTDOWN at any time during the delay period, enter:

```
? SHUTDOWN /CANCEL
```

If you issued SHUTDOWN without a /DELAY period, or if the delay period has expired, this command does *not* terminate the SHUTDOWN.

# SIGNOFF

The SIGNOFF command terminates a user's session.

## Format

SIGNOFF

**Note:** The following commands are aliases for the SIGNOFF command; you can use them in its place:

- BYE
- EXIT
- LOGOFF
- LOGOUT

| COMMAND FORMAT SUMMARY            |                                  |                             |                            |                              |         |
|-----------------------------------|----------------------------------|-----------------------------|----------------------------|------------------------------|---------|
| COMMAND PARAMETER,<br>OR MODIFIER | REQUIRED<br>COMMAND<br>PRIVILEGE | REQUIRED<br>GROUP<br>ACCESS | REQUIRED<br>FILE<br>ACCESS | MINIMUM<br>ACCOUNT<br>ACCESS | DEFAULT |
| SIGNOFF                           | -                                | -                           | -                          | -                            | -       |

## Description

SIGNOFF terminates your session with StorHouse.

## Example

To end your StorHouse session, enter:

```
? SIGNOFF
```

## STAGE

The STAGE command queues a transfer (copy) of a specified file to the performance buffer. You can stage files written to file sets in all level F volume sets except MAGDISK.

### Format

STAGE filename

| COMMAND FORMAT SUMMARY         |                            |                       |                      |                        |                 |
|--------------------------------|----------------------------|-----------------------|----------------------|------------------------|-----------------|
| COMMAND PARAMETER, OR MODIFIER | REQUIRED COMMAND PRIVILEGE | REQUIRED GROUP ACCESS | REQUIRED FILE ACCESS | MINIMUM ACCOUNT ACCESS | DEFAULT         |
| STAGE                          | COPY                       | -                     | -                    | -                      | -               |
| /REPORT                        | -                          | -                     | -                    | -                      | -               |
| filename                       | -                          | -                     | -                    | -                      | (Required)      |
| /FORCE                         | -                          | -                     | -                    | -                      | -               |
| /GROUP=...                     | -                          | -                     | -                    | -                      | Current default |
| /SPECIAL                       | -                          | -                     | -                    | -                      | -               |
| /VERSION=...                   | -                          | -                     | -                    | -                      | /VERSION=0      |

### Description

STAGE queues a transfer (copy) of all extents of the specified file to the performance buffer for faster access. Transferring files to the performance buffer with the STAGE command is referred to as manual file staging. To activate manual file staging, your system administrator must first set the MIG\_STAGE\_LOAD system parameter to a non-zero value. This parameter specifies the maximum number of data transfers that can be queued at one time.

If the performance buffer does not contain sufficient space to accommodate the staging request, StorHouse does not queue the file for staging or initiate a regular migration to make space available unless the /FORCE modifier is also specified. If all extents of the specified file are already in the performance buffer, no staging occurs. The STAGE command can be scheduled.

## Parameters

- filename Specifies the file to be staged.
- **FORMAT:** filename
  - **DEFAULT:** None; you must specify this parameter.
  - **RESTRICTIONS:** You may not specify a file in a Level F file set.

## Command Modifiers

- /REPORT Controls the generation of special text responses for the completion of significant actions. /REPORT instructs StorHouse to generate a text response. /NOREPORT instructs StorHouse not to generate a text response.
- **FORMAT:** /REPORT or /NOREPORT
  - **DEFAULT:** /NOREPORT

## Parameter Modifiers

- /FORCE Specifies that StorHouse will stage files to the performance buffer even when the staging will trigger a migration operation to make more performance buffer space available.
- **FORMAT:** /FORCE
  - **DEFAULT:** If you omit /FORCE, files are not staged to the performance buffer if doing so will trigger a migration operation (in other words, if it results in less than MIG\_MIN% available space in the performance buffer).
  - **RESTRICTIONS:** If you specify /FORCE, you may not specify a file that resides in a file set in the MAGDISK volume set.
- /GROUP Specifies the file access group to which the file belongs.
- **FORMAT:** /GROUP=groupname
  - **DEFAULT:** If you omit /GROUP, the default is your current default group.
  - **PRIVILEGE:** You must have SETGROUP privilege to specify any group except your default group.
- /SPECIAL Indicates that only special extents of the file should be staged. In this context, special refers to the file's last DF extent and StorHouse/RM map extents.

- **FORMAT:** /SPECIAL
- **DEFAULT:** If you omit /SPECIAL, the command stages all extents of the file.

**/VERSION** Specifies the relative version number of the file to be staged.

- **FORMAT:** /VERSION={0,-1,...,-32767}
- The braces “{ }” are not part of the specification.
- **FORMAT RESTRICTIONS:** Wild cards are not allowed.
  - **DEFAULT:** /VERSION=0

## Example

- To stage the file STATEMENTS in your default file access group, enter:

```
? STAGE STATEMENTS
```

If sufficient space is available in the performance buffer, the command will queue transfers of all extents of the STATEMENTS file to the performance buffer.

- To stage the file, STATEMENTS, which resides in your default file access group, to the performance buffer even if the staging operation will trigger a migration, enter:

```
? STAGE STATEMENTS /FORCE
```

The command will queue transfers of all extents of the STATEMENTS file to the performance buffer.

## UNCATALOG VOLUME

The UNCATALOG VOLUME command removes directory information for files on a level L or level S volume and reduces the size of any file sets on the volume.

### Format

UNCATALOG VOLUME vid

| COMMAND FORMAT SUMMARY         |                            |                       |                      |                        |            |
|--------------------------------|----------------------------|-----------------------|----------------------|------------------------|------------|
| COMMAND PARAMETER, OR MODIFIER | REQUIRED COMMAND PRIVILEGE | REQUIRED GROUP ACCESS | REQUIRED FILE ACCESS | MINIMUM ACCOUNT ACCESS | DEFAULT    |
| UNCATALOG VOLUME               | ALLOCATION + SYSTEM        | -                     | -                    | -                      | -          |
| /CONFIRM                       | -                          | -                     | -                    | -                      | /CONFIRM   |
| /REPORT                        | -                          | -                     | -                    | -                      | -          |
| /WAIT                          | -                          | -                     | -                    | -                      | -          |
| vid                            | -                          | -                     | -                    | -                      | (Required) |
| /NOARCHIVED                    | -                          | -                     | -                    | -                      | -          |
| /NOREMOVE                      | -                          | -                     | -                    | -                      | -          |

### Description

For volumes located on levels L and S only, UNCATALOG VOLUME removes directory information for all file extents on the specified volume and reduces any associated space allocations. Once the volume is uncataloged, it can be exported.

**Note:** Level F volume sets cannot be uncataloged.

If the command uncatalogs all extents of a file version, it removes the version from the directory. If it uncatalogs some, but not all, of a version's extents, it marks the version as truncated, partial, or still a logically complete, but older, revision. The final status of a file version depends on which extents are still cataloged.

If a file version is locked, the system displays an error message identifying the version and goes on to the next one unless you specified /WAIT. If the volume is a backup volume, the command marks the primary of every uncataloged file version as no longer backed up.

The command automatically removes any deleted extents that are resident on any removable volume (erasable or non-erasable). If the DEL\_FILE\_PERM system parameter is TRUE, the command also writes deleted file labels on the volume for the

removed files. When the command first begins to uncatalog a volume, it sets the state of the volume to “uncataloging.” If the command successfully removes directory information for all files on a volume, the command places the volume in the “uncataloged” state.

If the volume contains all or part of one or more file sets, `UNCATALOG VOLUME` reduces the sizes of the file sets on the volume by the size of the partition of each file set on the volume. However, the command removes no file sets and always leaves the volume set in the directory.

If the command is interrupted by a system failure and the volume is left in the cataloged or uncataloging state, enter the command again.

StorHouse allows multiple `UNCATALOG VOLUME` (or `UNCATALOG VSET`) commands to be executed at one time. You can schedule `UNCATALOG VOLUME` using the `SCHEDULE` command.

## Parameters

`vid` Specifies the volume identification code (`vid`) of the volume to be uncataloged. The volume must be in the cataloged or uncataloging state.

Level F volume sets cannot be uncataloged. If you specify a level F volume, the command does not find the volume and returns an error message.

- **FORMAT:** {media\_type}{recording\_type}{volume\_label}

The braces “{ }” are not part of the specification.

- **DEFAULT:** None; you must specify this parameter.

See Appendix B, “Data Field, Parameter, and Modifier Definitions” for a description of the `vid` data field.

## Command Modifiers

`/CONFIRM` Controls whether StorHouse asks you to confirm the command.

- **FORMAT:** `/CONFIRM` or `/NOCONFIRM`
- **DEFAULT:** `/CONFIRM`

When the system requests a confirmation, enter `YES` (also `Y` or `YE`) or `NO` (also `N`). If you press `R` or enter any characters other than those described as a `YES` response, StorHouse interprets them as `NO`.



- /REPORT** Controls the generation of special text responses for the completion of significant actions. /REPORT instructs StorHouse to generate a text response. /NOREPORT instructs StorHouse not to generate a text response.
- **FORMAT:** /REPORT or /NOREPORT
  - **DEFAULT:** /NOREPORT
- /WAIT** Indicates that StorHouse is to wait for a locked file to be unlocked before attempting to use it in the command execution. If more than one file is locked, StorHouse waits for each one to become unlocked.
- **FORMAT:** /WAIT
  - **DEFAULT:** No /WAIT modifier. StorHouse aborts the command or processing of an item and returns an error status if the specified volume contains locked files.

## Parameter Modifiers

- /NOARCHIVED** Clears the archive flag in the primary directory for every file on an archive volume that you uncatalog. By clearing the archive flag, a file appears as though it is not archived.
- **FORMAT:** /NOARCHIVED
  - **DEFAULT:** If you omit the modifier, the archive flag in the primary directory remains set for every file on the archived volume that you uncatalog.
  - **RESTRICTION:** For archive volumes only.
- /NOREMOVE** Prevents StorHouse from removing directory information for any extents on the volume. StorHouse skips the volume for uncataloging and it remains in the cataloged state. This modifier prevents the accidental loss of files on volumes that you thought were empty but were not.
- **FORMAT:** /NOREMOVE
  - **DEFAULT:** If you omit the modifier, StorHouse removes directory information for any extents on the volume.

## Examples

- To remove directory information for all file extents on the volume OEBC0000168 and reduce associated space allocations, enter:

```
? UNCATALOG VOLUME OEBC0000168
```

If the volume is a backup volume, StorHouse marks the primary of every uncataloged file version as no longer backed up.

If the command uncatalogs all extents of a file version, information for that version is removed from the StorHouse directory. If it uncatalogs some but not all of a version's extents, StorHouse marks the version as truncated, partial, or complete but older.

If the volume contains all or part of one or more file sets, the command reduces the sizes of the file sets by the size of their partitions on the volume. However, it does not remove the file sets or their directory information.

If a file version is locked, StorHouse displays an error message for that version and goes on to the next. Specifying /WAIT on the command allows StorHouse to wait until the version becomes unlocked to uncatalog it.

- To remove directory information for all file extents on the volume OEBC0000168 and reduce associated space allocations, but skip the volume for uncataloging if any surface of that volume is not empty, enter:

```
? UNCATALOG VOLUME OEBC0000168 /NOREMOVE
```

- To remove directory information for all file extents on archive volume OEBC0000242, reduce associated space allocations, and clear the archive flag in the primary directory for every file on the volume, enter:

```
? UNCATALOG VOLUME OEBC0000242 /NOARCHIVED
```

## UNCATALOG VSET

The UNCATALOG VSET command removes directory information for files and file sets on a volume set. The command does not apply to files and file sets in level F volume sets.

### Format

UNCATALOG VSET vset\_name

| COMMAND FORMAT SUMMARY         |                            |                       |                      |                        |            |
|--------------------------------|----------------------------|-----------------------|----------------------|------------------------|------------|
| COMMAND PARAMETER, OR MODIFIER | REQUIRED COMMAND PRIVILEGE | REQUIRED GROUP ACCESS | REQUIRED FILE ACCESS | MINIMUM ACCOUNT ACCESS | DEFAULT    |
| UNCATALOG VSET                 | ALLOCATION +SYSTEM         | -                     | -                    | -                      | -          |
| /CONFIRM                       | -                          | -                     | -                    | -                      | /CONFIRM   |
| /REPORT                        | -                          | -                     | -                    | -                      | -          |
| /WAIT                          | -                          | -                     | -                    | -                      | -          |
| vset_name                      | -                          | -                     | -                    | -                      | (Required) |
| /NOARCHIVED                    | -                          | -                     | -                    | -                      | -          |
| /NOREMOVE                      | -                          | -                     | -                    | -                      | -          |

### Description

UNCATALOG VSET removes directory information for all files and file sets in the volume set. Free pool volume sets cannot be uncataloged.

Level F volume sets cannot be uncataloged. If you specify a level F volume set name, the command does not find the volume set and returns an error.

If a file is locked, the system displays an error message identifying the file and goes on to the next one. If the volume set is a backup volume set, the command marks the primary of every uncataloged file as no longer backed up.

The command automatically removes any deleted extents that are resident in the volume set. If the DEL\_FILE\_PERM system parameter is TRUE, the command also writes deleted file labels on the volumes in the volume set from which the files were removed.

When the command first begins to uncatalog a volume, it sets the status of the volume to “uncataloging.” If the command successfully removes directory information for all files on a volume, the command places the volume in the

uncataloged state. If the command is interrupted by a system failure and a volume is left in the cataloged or uncataloging state, enter the command again.

StorHouse allows multiple UNCATALOG VSET (or UNCATALOG VOLUME) commands to be executed at one time.

You can schedule UNCATALOG VSET using the SCHEDULE command.

## Parameters

- vset\_name Specifies the volume set to be uncataloged. The volumes in the set must be in the cataloged or uncataloging state.
- FORMAT: vset\_name
  - DEFAULT: None; you must specify this parameter.

## Command Modifiers

- /CONFIRM Controls whether StorHouse asks you to confirm the command.
- FORMAT: /CONFIRM or /NOCONFIRM
  - DEFAULT: /CONFIRM
- When the system requests a confirmation, enter YES (also Y or YE) or NO (also N). If you press R or enter any characters other than those described as a YES response, StorHouse interprets them as NO.
- /REPORT Controls the generation of special text responses for the completion of significant actions. /REPORT instructs StorHouse to generate a text response. /NOREPORT instructs StorHouse not to generate a text response.
- FORMAT: /REPORT or /NOREPORT
  - DEFAULT: /NOREPORT
- /WAIT Indicates that StorHouse is to wait for a locked file to be unlocked before attempting to use it in the command execution. If more than one file is locked, StorHouse waits for each one to become unlocked.
- FORMAT: /WAIT
  - DEFAULT: No /WAIT modifier. StorHouse aborts the command or processing of an item and returns an error status if one or more of the volumes in the specified volume set contain locked files.

## Parameter Modifiers

**/NOARCHIVED** Clears the archive flag in the primary directory for every file on an archive volume(s) in the volume set that you uncatalog. By clearing the archive flag, a file appears as though it is not archived.

- **FORMAT:** /NOARCHIVED
- **DEFAULT:** If you omit the modifier, the archive flag in the primary directory remains set for every file on the archived volume(s) in the volume set that you uncatalog.
- **RESTRICTION:** For archive volumes only.

**/NOREMOVE** Prevents StorHouse from removing directory information for any extents on volumes in the volume set. StorHouse skips these volumes for uncataloging and they remain in the cataloged state. This modifier prevents the accidental loss of files on volumes that you thought were empty but were not.

- **FORMAT:** /NOREMOVE
- **DEFAULT:** If you omit the modifier, StorHouse removes directory information for any extents on the volume.

## Examples

- To remove directory information for files and file sets in the volume set USERVSET, enter:

```
? UNCATALOG VSET USERVSET
```

If USERVSET is a backup volume set, the primary of every uncataloged file is marked as not backed up.

If any files in the volume set are locked, StorHouse displays an error message for them and goes on to the next file. Specifying /WAIT on the command allows StorHouse to wait until the file becomes unlocked to uncatalog it.

If the UNCATALOG VSET command executes successfully, the status of the volume or volumes belonging to USERVSET is changed to “uncataloged.” The volume set can now be exported.

- To remove directory information for files and file sets in the volume set USERVSET, but skip a volume(s) for uncataloging if any surface of a volume is not empty, enter:

```
? UNCATALOG VSET USERVSET /NOREMOVE
```

- To remove directory information for files and file sets in the volume set USRAVSET, and clear the archive flag in the primary directory for every file on every archive volume in the volume set, enter:

```
? UNCATALOG VSET USRAVSET /NOARCHIVED
```

# UNDELETE

The UNDELETE command moves the most recently deleted version of a file from the deleted file directory back to its original directory.

## Format

UNDELETE filename

| COMMAND FORMAT SUMMARY         |                            |                       |                      |                        |                 |
|--------------------------------|----------------------------|-----------------------|----------------------|------------------------|-----------------|
| COMMAND PARAMETER, OR MODIFIER | REQUIRED COMMAND PRIVILEGE | REQUIRED GROUP ACCESS | REQUIRED FILE ACCESS | MINIMUM ACCOUNT ACCESS | DEFAULT         |
| UNDELETE                       | DELETE                     | -                     | -                    | -                      | -               |
| /REPORT                        | -                          | -                     | -                    | -                      | -               |
| filename                       | -                          | W                     | W                    | -                      | (Required)      |
| /DIRECTORY=...                 | SYSTEM                     | -                     | -                    | -                      | PRIMARY         |
| /GROUP=...                     | SETGROUP                   | W                     | -                    | -                      | Current default |
| /PASSWORDS=...                 | -                          | -                     | -                    | -                      | -               |

## Description

Deleted files are kept temporarily in the deleted file directory. You may be able to restore a file (that is, move it back to its original directory and make it available for use) by using UNDELETE.

If one or more versions of the file have been added to StorHouse since the file was deleted, the relative version number of the undeleted version may be different from what it was when it was deleted.

UNDELETE restores the most recently deleted version of a file. It can be repeated to restore multiple deleted versions of a file. If the number of non-deleted versions of a file is equal to the current LIMIT attribute for a primary file, a deleted version cannot be undeleted. In this case, you must raise the LIMIT (if it is not already at its maximum) before you can undelete a deleted file. (See the SET FILE command.)

If a file version has been removed (see the REMOVE FILE command), it cannot be undeleted.

To UNDELETE a backup or archive copy of a file, you must specify /DIRECTORY.

If the command undeletes a primary, backup, or archive of a file version, it does not change the “backed up” or “archived” status for the primary.

## Parameters

**filename** Specifies the file to be undeleted.

- **FORMAT:**
  - filename
  - partial\_filename\*
  - \*

The wild card is valid only if you specify it as the last or only character in the name.

- **DEFAULT:** None; you must specify this parameter.
- **ACCESS REQUIREMENTS:** Write access to the file and group.

## Command Modifiers

**/REPORT** Controls the generation of special text responses for the completion of significant actions. /REPORT instructs StorHouse to generate a text response. /NOREPORT instructs StorHouse not to generate a text response.

- **FORMAT:** /REPORT or /NOREPORT
- **DEFAULT:** /NOREPORT

## Parameter Modifiers

**/DIRECTORY** Specifies the directory in which files are to be undeleted.

- **FORMAT:**
  - /DIRECTORY=PRIMARY
  - /DIRECTORY=ARCHIVE
  - /DIRECTORY=BACKUP
- **DEFAULT:** /DIRECTORY=PRIMARY
- **PRIVILEGE:** To specify a directory other than the primary, you must have SYSTEM privilege.

**/GROUP** Specifies a file access group name and, optionally, group passwords.

- **FORMAT:**



- /GROUP=groupname<::writepw>
  - /GROUP=partial\_groupname\*
  - /GROUP=\*
- **DEFAULT:** If you omit /GROUP, the default is your default file access group.
  - **ACCESS REQUIREMENTS:** Write access to the group.

You must specify the write password unless:

- The group is not protected by a write password.
  - Your privilege bypasses write access password checks.
  - Your default access to the group includes write access.
- **PRIVILEGE:** You must have SETGROUP privilege to specify any group except your default group.

**/PASSWORDS** Specifies the file's write password.

- **FORMAT:** /PASSWORDS=:writepw
- **ACCESS REQUIREMENTS:** Write access to the file. You must specify the write password unless:
  - The file is not protected by a write password.
  - Your privilege bypasses write access password checks.
- **DEFAULT:** If you omit /PASSWORDS, the password defaults to nulls.

Passwords are not allowed if filename contains a wild card.

## Examples

- To move the version of USERFILE that was most recently deleted from the primary directory (the default) back to that directory, enter:

```
? UNDELETE USERFILE
```

You must have write access to USERFILE and to the group in which it is located (in this case, your default access group).

- To move the version of USERFILE that was most recently deleted from the archive directory back to that directory, enter:

```
? UNDELETE USERFILE /PASSWORDS=:WRITEPW
/GROUP=USERGRP::GRPWRITE /DIRECTORY=ARCHIVE
```

The ARCHIVED status of the primary is unchanged. You must specify the write passwords for USERFILE and USERGRP, WRITEPW and GRPWRITE, respectively, if you do not have the type of access and privilege necessary to bypass specifying passwords.

# UNLOCK

The UNLOCK command unlocks an explicitly locked file version to allow access by other accounts.

## Format

UNLOCK fid

| COMMAND FORMAT SUMMARY            |                                  |                             |                            |                              |            |
|-----------------------------------|----------------------------------|-----------------------------|----------------------------|------------------------------|------------|
| COMMAND PARAMETER,<br>OR MODIFIER | REQUIRED<br>COMMAND<br>PRIVILEGE | REQUIRED<br>GROUP<br>ACCESS | REQUIRED<br>FILE<br>ACCESS | MINIMUM<br>ACCOUNT<br>ACCESS | DEFAULT    |
| UNLOCK                            | -                                | -                           | -                          | -                            | -          |
| (own account)                     | LOCK                             | -                           | -                          | -                            | -          |
| (any account)                     | LOCK                             | -                           | -                          | ANYA                         | -          |
| /REPORT                           | -                                | -                           | -                          | -                            | -          |
| fid                               | -                                | -                           | -                          | -                            | (Required) |

## Description

UNLOCK unlocks only a file version that is locked by your account unless you have ANYACCOUNT privilege. UNLOCK removes an explicit lock on a file across all directories. In other words, if backup or archive copies of the file version exist, they are unlocked when the primary is unlocked.

## Parameters

- fid Specifies the file identifier (fid) of the file version to be unlocked.
- **FORMAT:** x.y (where x is the system identifier, and y is the file number assigned to the file)
  - **DEFAULT:** None; you must specify this parameter.

## Command Modifiers

**/REPORT** Controls the generation of a special text response for the unlocking of a file version. The text response contains the file identifier (fid) of the unlocked version.

**/REPORT** instructs StorHouse to generate a text response. **/NOREPORT** instructs StorHouse not to generate a text response.

- **FORMAT:** **/REPORT** or **/NOREPORT**
- **DEFAULT:** **/NOREPORT**

## Example

To remove an explicit lock for the file version whose file identifier is 234.77, enter:

```
? UNLOCK 234.77
```

If archive or backup copies of this version of the file exist, they are unlocked also.

If the file is not locked when this command is executed or if it was implicitly locked by StorHouse, StorHouse returns an error message. You must have **ANYACCOUNT** privilege to unlock the file if another account locked it.

## UP DEVICE

The UP DEVICE command initializes a device and makes it available to the system.

### Format

UP DEVICE did

| COMMAND FORMAT SUMMARY         |                            |                       |                      |                        |            |
|--------------------------------|----------------------------|-----------------------|----------------------|------------------------|------------|
| COMMAND PARAMETER, OR MODIFIER | REQUIRED COMMAND PRIVILEGE | REQUIRED GROUP ACCESS | REQUIRED FILE ACCESS | MINIMUM ACCOUNT ACCESS | DEFAULT    |
| UP DEVICE                      | OPERATOR                   | -                     | -                    | -                      | -          |
| /CONFIRM                       | -                          | -                     | -                    | -                      | /NOCONFIRM |
| /REPORT                        | -                          | -                     | -                    | -                      | -          |
| did                            | -                          | -                     | -                    | -                      | (Required) |

### Description

UP DEVICE initializes a StorHouse device and makes it available for use by the system (unless SGI has brought the device down for maintenance). The system notifies the operator of the change in device status.

The following rules apply when executing UP DEVICE:

- You cannot use wild cards in the device specification.
- You must include the level and unit number in the specification.
- To bring up a subunit, specify the device, unit\_number, subunit\_type, and subunit\_number.

If a unit is not operational, the subunits within it are not available until you bring up the unit.

- If you bring up a unit with subunits, such as a library device with an accessor and two drives, its component subunits become accessible. However, if you take them down independently from the entire device, you must bring them up separately.

You can schedule UP DEVICE using the SCHEDULE command.

## Parameters

**did** Specifies the device to be initialized. If you bring up a unit that contains subunits, the component subunits may become accessible, depending on their individual states.

- **FORMAT:**
  - {level}{unit\_number}{subunit\_type}{subunit\_number}
  - {level}{unit\_number}

The braces “{ }” are not part of the specification.

- Level consists of one character corresponding to a type of device or storage level. The valid levels are: F, L, S, and N, for fixed, library, shelf, and network, respectively.
- Unit\_number consists of two hexadecimal characters where each physically separate device is assigned a unit\_number, starting at 00.
- Subunit\_type consists of a single character that represents a type of device within a unit. The valid types are A, D, and E, for accessor, drive, and exchange station, respectively. Subunit\_type applies to level L only.
- Subunit\_number consists of two hexadecimal characters and identifies a specific device or location within a unit.
- **DEFAULT:** None; you must specify this parameter.

## Command Modifiers

**/CONFIRM** Controls whether StorHouse asks you to confirm the command.

- **FORMAT:** /CONFIRM or /NOCONFIRM
- **DEFAULT:** /NOCONFIRM

When the system requests a confirmation, enter YES (also Y or YE) or NO (also N). If you press R or enter any characters other than those described as a YES response, StorHouse interprets them as NO.

**/REPORT** Controls the generation of special text responses for the completion of significant actions. /REPORT instructs StorHouse to generate a text response. /NOREPORT instructs StorHouse not to generate a text response.

- **FORMAT:** /REPORT or /NOREPORT
- **DEFAULT:** /NOREPORT

## Examples

- To makes library device 0 available for use, enter:

```
? UP DEVICE L00
```

If the library device is already up when this command is executed, StorHouse generates a warning message.

As long as they were not brought down individually, the library device's subunits become available when the library device is brought up. If they were brought down separately from the library device, they must be brought up individually.

- To make drive 1 in library device 0 available, enter:

```
? UP DEVICE L00D01
```

The library device must be up in order for the drive to be accessible, although UP DEVICE executes regardless of the library device's state.

## VALIDATE DEVICE

VALIDATE DEVICE verifies that StorHouse can read all file extents on a level F device.

### Format

VALIDATE DEVICE did

| COMMAND FORMAT SUMMARY          |                            |                       |                      |                        |             |
|---------------------------------|----------------------------|-----------------------|----------------------|------------------------|-------------|
| COMMAND, PARAMETER, OR MODIFIER | REQUIRED COMMAND PRIVILEGE | REQUIRED GROUP ACCESS | REQUIRED FILE ACCESS | MINIMUM ACCOUNT ACCESS | DEFAULT     |
| VALIDATE DEVICE                 | SYSTEM                     | -                     | -                    | -                      | -           |
| /CONFIRM                        | -                          | -                     | -                    | -                      | /NOCONFIRM  |
| /MAX_ERRORS=...                 | -                          | -                     | -                    | -                      | -           |
| /NODATA                         | -                          | -                     | -                    | -                      | -           |
| /PB_PENDING                     | -                          | -                     | -                    | -                      | /PB_PENDING |
| /REPORT                         | -                          | -                     | -                    | -                      | /NOREPORT   |
| did                             | -                          | -                     | -                    | -                      | (Required)  |
| /DIRECTORY=...                  | -                          | -                     | -                    | -                      | -           |
| /SET=...                        | -                          | -                     | -                    | -                      | -           |

### Description

VALIDATE DEVICE verifies that all file extents on a level F device can be read. The command does not validate extents belonging to deleted or locked files or extents located on freepool, offline, or non-cataloged devices.

StorHouse typically validates pending extents (performance buffer extents that have not yet been written back to their resident file sets) by reading the performance buffer copy. You can instruct StorHouse to skip pending extents by specifying the /NOPBPENDING modifier.

If any device cannot be validated, contact your SGI customer support representative.

### Parameter

did Specifies the device identification code(s) of the device(s) to be validated.

- FORMAT:



- Fxx
- Fx\*
- F\*

where xx is the device number, x is a partial device number, or the wildcard (\*) matches all numbers.

- DEFAULT: None, you must specify this parameter.
- RESTRICTIONS: Only level F devices can be specified.

## Command Modifiers

**/CONFIRM** Controls whether StorHouse prompts you to confirm the command.

- FORMAT:
  - /CONFIRM
  - /NOCONFIRM
- DEFAULT: /NOCONFIRM

When the system requests a confirmation, enter YES or NO. YES (entered as Y, YE, or YES) directs the system to perform the command. Do not place a space, tab, or other character after the YES response. If you do, StorHouse will not recognize the response as a YES and will not execute the command. If you press enter or enter any characters other than those described as a YES response, StorHouse interprets the response as NO.

**/MAX\_ERRORS** Controls the maximum number of errors StorHouse allows when it finds file extents that are not accessible on a device. If the number of errors reaches this limit, StorHouse stops processing the current device.

- FORMAT:
  - /MAX\_ERRORS=number
  - /MAX\_ERRORS=0
  - /MAX\_ERRORS

Specifying either /NOMAX\_ERRORS or /MAX\_ERRORS=0 indicates no limit on the number of possible errors.

- DEFAULT: /MAX\_ERRORS=0

**/NODATA** Indicates that the data portion of each file extent should not be read. However, the file extents will be accessed to ensure that they are present on the media.

- FORMAT: /NODATA
- DEFAULT: No /NODATA modifier

**/PB\_PENDING** Indicates whether the command should validate pending extents (extents in the performance buffer that have not yet been written back to their resident FSET). **/PB\_PENDING** instructs StorHouse to validate pending extents. **/NOPB\_PENDING** instructs StorHouse not to validate pending extents.

- **FORMAT:**
  - **/PB\_PENDING**
  - **/NOPB\_PENDING**
- **DEFAULT:** **/NOPB\_PENDING**

**/DIRECTORY** Indicates the devices in the specified directory will be selected for validation.

- **FORMAT:**
  - **/DIRECTORY=PRIMARY**
  - **/DIRECTORY=BACKUP**
  - **/DIRECTORY=ARCHIVE**
- **DEFAULT:** If you omit **/DIRECTORY**, the system does not select devices based on a specific directory.
- **RESTRICTIONS:** **/DIRECTORY** and **/VSET** are mutually exclusive.

**/VSET** Validates devices that make up the specified volume set.

- **FORMAT:** **/VSET=vset\_name**
- **FORMAT RESTRICTIONS:** No wildcards are allowed.
- **DEFAULT:** If you omit **/VSET**, the system does not use the volume set name to select devices. In other words, the system validates all devices unless restricted by other modifiers.
- **RESTRICTIONS:** **/VSET** and **/DIRECTORY** are mutually exclusive.

## Examples

- To validate device F02, enter:

```
? VALIDATE DEVICE F02
```

The system responds with the following message:

```
Extents: Total=574 Good=574 Skipped=0 Bad=0
```

If the system identifies any unreadable extents, notify your SGI customer support representative.

- To validate all devices in the BACKUP\_F volume set, enter:

```
? VALIDATE DEVICE F* /VSET=BACKUP_F
```

## VALIDATE FILE

The VALIDATE FILE command verifies that StorHouse can read the extents of a specific file.

### Format

VALIDATE FILE filename

| COMMAND FORMAT SUMMARY          |                            |                       |                      |                        |            |
|---------------------------------|----------------------------|-----------------------|----------------------|------------------------|------------|
| COMMAND, PARAMETER, OR MODIFIER | REQUIRED COMMAND PRIVILEGE | REQUIRED GROUP ACCESS | REQUIRED FILE ACCESS | MINIMUM ACCOUNT ACCESS | DEFAULT    |
| VALIDATE File                   | -                          | Read                  | Read                 | -                      | (Required) |
| /CONFIRM                        | -                          | -                     | -                    | -                      | /NOCONFIRM |
| /MAX_ERRORS=...                 | -                          | -                     | -                    | -                      | -          |
| /NODATA                         | -                          | -                     | -                    | -                      | -          |
| /PENDING                        | -                          | -                     | -                    | -                      | /NOPENDING |
| /REPORT                         | -                          | -                     | -                    | -                      | /NOREPORT  |
| filename                        | -                          | -                     | -                    | -                      | (Required) |
| /DIRECTORY=...                  | -                          | -                     | -                    | -                      | -          |
| /GROUP=...                      | -                          | Read                  | -                    | -                      | -          |
| /VERSION=...                    | -                          | -                     | -                    | -                      | /VERSION=0 |

### Description

VALIDATE FILE verifies that StorHouse can read all extents of a specific file. The command does not validate extents belonging to deleted files. If any file cannot be validated, notify your SGI customer support representative.

StorHouse typically validates the performance buffer copy of pending extents. A pending extent is a file extent that has not been written back to its resident file set.

VALIDATE FILE validates file extents in their preferred order (i.e., the order that they would generally be written to tape).

### Parameter

filename Specifies the StorHouse file or file extent to be validated.

- **FORMAT:** filename
- **DEFAULT:** None; you must specify this parameter.
- **ACCESS REQUIREMENTS:** Read access to the file and group.

## Command Modifiers

**/MAX\_ERRORS** Controls the maximum number of errors StorHouse will allow when it finds inaccessible extents in a specific file. If the number of errors reaches this limit, StorHouse stops processing the file.

- **FORMAT:**
  - /MAX\_ERRORS=number
  - /MAX\_ERRORS=0
  - /NO\_MAX\_ERRORS

Specifying either /NOMAX\_ERRORS or /MAX\_ERRORS=0 indicates an unlimited number of errors.

- **DEFAULT:** /MAX\_ERRORS=0

**/NODATA** Indicates that the data portion of each file extent should not be read. However, the file extents will be accessed to ensure that they are present on the media.

- **FORMAT:** /NODATA
- **DEFAULT:** No /NODATA modifier

**/PENDING** Indicates whether the command should validate pending extents. /PENDING validates pending extents. /NOPENDING does not validate pending extents.

- **FORMAT:**
  - /PENDING
  - /NOPENDING
- **DEFAULT:** /PENDING

**/REPORT** Controls the generation of special text responses for the completion of significant actions. /REPORT instructs StorHouse to generate a text response. /NOREPORT instructs StorHouse not to generate a text response (other than a summary line).

- **FORMAT:**
  - /REPORT
  - /NOREPORT
- **DEFAULT:** /NOREPORT

## Parameter Modifiers

**/DIRECTORY** Specifies which directory to use for validating files.

- **FORMAT:**
  - /DIRECTORY=ARCHIVE
  - /DIRECTORY=BACKUP
  - /DIRECTORY=PRIMARY
- **DEFAULT:** /DIRECTORY=PRIMARY

**/GROUP** Specifies a file access group name and, optionally, the group's read password.

- **FORMAT:** /GROUP=groupname<:readpw>
- **DEFAULT:** If you omit /GROUP, the default is your default file access group.
- **ACCESS REQUIREMENTS:** Read access to the group.

You must specify the read password unless:

- The group is not protected by a read password.
- Your privilege bypasses read access password checks.
- Your default access to the group indicates read access.
- **PRIVILEGE:** You must have SETGROUP privilege to specify any group except your default group.

**/VERSION** Selects the specified version of a file for validation. The versions are relative version numbers in the directory selected by /DIRECTORY. If you omit /DIRECTORY, the versions are relative version numbers in the primary directory.

- **FORMAT:** /VERSION=version

The value of version can range from 0 through -32767 for primary files. For files in the archive and backup directories, the range is 0 through -65535.

- **DEFAULT:** /VERSION=0

## Example

To validate version 0 of the file USERFILE in your default file access group, enter:

```
? VALIDATE FILE USERFILE
```

The system responds with a message:

```
Extents: Total=4 Good=4 Pending=0 Bad=0
```

If the system identifies any unreadable extents, contact your SGI customer support representative.

## VALIDATE VOLUME

The VALIDATE VOLUME command verifies that all file extents on a level L or level S volume can be read.

### Format

VALIDATE VOLUME vid

| COMMAND FORMAT SUMMARY          |                            |                       |                      |                        |                     |
|---------------------------------|----------------------------|-----------------------|----------------------|------------------------|---------------------|
| COMMAND, PARAMETER, OR MODIFIER | REQUIRED COMMAND PRIVILEGE | REQUIRED GROUP ACCESS | REQUIRED FILE ACCESS | MINIMUM ACCOUNT ACCESS | DEFAULT             |
| VALIDATE VOLUME                 | SYSTEM                     | -                     | -                    | -                      | -                   |
| /CONFIRM                        | -                          | -                     | -                    | -                      | /NOCONFIRM          |
| /DEADLINE=...                   | -                          | -                     | -                    | -                      | No start time limit |
| /LIMIT=...                      | -                          | -                     | -                    | -                      | No limit            |
| /MAX_ERRORS=...                 | -                          | -                     | -                    | -                      | -                   |
| /NODATA                         | -                          | -                     | -                    | -                      | -                   |
| /PENDING                        | -                          | -                     | -                    | -                      | /PENDING            |
| /PREVIEW                        | -                          | -                     | -                    | -                      | -                   |
| /REPORT                         | -                          | -                     | -                    | -                      | /NOREPORT           |
| /RESTART                        | -                          | -                     | -                    | -                      | /RESTART            |
| vid                             | -                          | -                     | -                    | -                      | (Required)          |
| /DIRECTORY=...                  | -                          | -                     | -                    | -                      | -                   |
| /LOCATION=...                   | -                          | -                     | -                    | -                      | -                   |
| /VALIDATE_DATE=...              | -                          | -                     | -                    | -                      | -                   |
| /VSET=...                       | -                          | -                     | -                    | -                      | -                   |

### Description

VALIDATE VOLUME verifies that all file extents on a volume can be read. This command will not validate extents that belong to deleted files. If any volume cannot be validated, contact your SGI customer support representative.

Pending extents (extents in the performance buffer which have not yet been written back to their resident FSET) are usually validated by reading the performance buffer copy. However, pending extents can be skipped by using the /NOPENDING modifier, if desired.



If a validate of a volume is interrupted by reaching the deadline time or by a system shutdown, the command can save information to allow a subsequent validate of that volume to resume validation at the point it was interrupted.

It is common to schedule a periodic validate (e.g., every night or every weekend) as part of regular tape maintenance. Usually the volume id would be (at least partially) wildcarded, and other selection modifiers (e.g., /VSET) might also be used to restrict the volumes to be validated. /VALIDATE\_DATE should also be used so that only volumes that have not been validated recently would be validated.

The validate command only validates one volume at a time. If you want to validate multiple volumes at a time, you can schedule more than one validate command. (If two validate commands try to validate the same volume at the same time, the first command will invalidate the volume, and the second command will skip it.)

## Automatic Periodic Validation

VALIDATE VOLUME supports automatic periodic validation as follows. Once data is written to a volume, that volume will be validated N days later and again every N days after that. The process is automatic and customizable.

**Volume Timestamps.** To support automatic periodic validates, StorHouse maintains these timestamps for every volume.

- VALIDATE\_DATE
- LAST\_VALIDATED

VALIDATE VOLUME uses the VALIDATE\_DATE timestamp to determine when to validate a volume. StorHouse initializes VALIDATE\_DATE to the current date/time when the first file (extent) is written to the volume. Then StorHouse updates the VALIDATE\_DATE timestamp to the current date/time when the validation occurs. The VALIDATE\_DATE can also be set by user request on several commands.

The LAST\_VALIDATED timestamp indicates the last successful validate of the volume. StorHouse clears this timestamp when the volume enters the system (by MIGRATE /BLANKS, IMPORT, or RECOVER DEVICE), and then updates it to the current date/time after every successful validate of the volume.

After the first successful validate, the two timestamps will usually match. A failed validate does not change either timestamp.

**Validate Frequency.** A volume's validate frequency indicates how often the volume should be validated expressed in units of days. In other words, the validate frequency of a volume is the desired maximum age of non-validated data on the volume.

The appropriate validate frequency of a volume is site-specific and should normally be based on media type and the importance of data on the volume. Therefore, periodic validates may not be appropriate for some volumes.

You can specify the validate frequency on the VALIDATE VOLUME command. However, for convenience, SGI can configure your system with a default validate frequency for each configured media type. If there is no specifically defined default frequency for a given media type, StorHouse uses zero for the default validate frequency.

**Performing Periodic Validates.** To perform a periodic validate, specify the /VALIDATE\_DATE modifier on the VALIDATE VOLUME command. When /VALIDATE\_DATE is specified, VALIDATE VOLUME will validate a volume based on the volume's VALIDATE\_DATE timestamp and the desired validate frequency.

You typically specify /VALIDATE\_DATE as a delta time. For example, for a validate frequency of one year, specify "/VALIDATE\_DATE=D365-0." In this example, StorHouse will validate a volume if it contains any data that has not been validated in the past year.

You can also specify /VALIDATE\_DATE as an absolute time. Again, the volume will be validated only if its VALIDATE\_DATE timestamp is earlier than or equal to that date/time.

If you omit a value for /VALIDATE\_DATE, the command uses the default validate frequency for the volume's media type. If the default value is non-zero, it is expressed as a delta time.

If the default validate frequency for the volume's media type is zero, you can specify the VALIDATE VOLUME \* /VALIDATE\_DATE command to simply skip all volumes of all media types where validation does not apply.

Without the /VALIDATE\_DATE modifier, the VALIDATE VOLUME command validates all volumes selected by the specified volume id and any other modifiers, and ignores the volume's VALIDATE\_DATE timestamp.

With or without /VALIDATE\_DATE, if the validate process is successful, the command updates the volume's VALIDATE\_DATE and LAST\_VALIDATED timestamps.

**Scheduling Automatic Periodic Validates.** For automatic periodic validates, schedule one or more VALIDATE VOLUME commands to run on a regular basis. Typically, you will use a wildcarded volume ID on the SCHEDULE command. For more precise selection, you may use a partial wildcarded volume ID, and/or /DIRECTORY, /LOCATION, and/or /VSET modifiers. This technique is useful for indicating different values such as validate frequencies for different volumes.

- You can use the /DEADLINE, /LIMIT, and/or /MAX\_ERRORS modifiers to limit the scope of the VALIDATE VOLUME command.

- You can schedule multiple concurrent VALIDATE VOLUME commands to provide multiple concurrent validates. (A single VALIDATE VOLUME command validates just one volume at a time.)
- You can use the /EMAIL and /ON\_ERROR modifiers on the SCHEDULE command to report any problems to an administrator.

**Setting a Value for VALIDATE\_DATE.** Normally, the system manages a volume's VALIDATE\_DATE timestamp. However, if desired, you can set the value with the SET VOLUME /VALIDATE\_DATE command. The VALIDATE\_DATE timestamp cannot be set earlier than the volume's INITIALIZED timestamp, and it cannot be set to a future date/time.

Note the following. When a volume containing files is brought into StorHouse by an IMPORT or RECOVER DEVICE command, its VALIDATE\_DATE timestamp should ideally be restored to the timestamp value in the previous StorHouse system. However, because the new StorHouse does not have access to the old timestamp value, it defaults the VALIDATE\_DATE timestamp to the INITIALIZED timestamp (the date/time the volume was originally migrated into StorHouse and labeled).

You can set the VALIDATE\_DATE timestamps of such volumes to another value by specifying the /VALIDATE\_DATE modifier on the IMPORT or RECOVER DEVICE commands that bring the volumes into the new StorHouse system. Alternatively, you can set the timestamps anytime thereafter using the /VALIDATE\_DATE modifier on the SET VOLUME command. If the actual value from the previous StorHouse is available, the VALIDATE\_DATE timestamp could be set to that value or another appropriate value.

## Parameters

vid Specifies the volume identification code (vid) of the volume that you want to validate.

- FORMAT:
  - {media\_type}{recording\_type}{volume\_label}:{side}
  - {media\_type}{recording\_type}{volume\_label}\*
    - {media\_type}{recording\_type}\*
      - {media\_type}\*
        - {partial\_media\_type}\*
          - \*

The braces “{ }” are not part of the specification. See Appendix B, “Data Field, Parameter, and Modifier Definitions” in the *Command Language Reference Manual* for a description of the vid data field.

- **FORMAT RESTRICTION:** The volume must be a level L (library) or level S (shelf) volume.
- **DEFAULT:** None; you must specify this parameter.

## Command Modifiers

**/CONFIRM** Controls whether StorHouse asks you to confirm the command.

- **FORMAT:** /CONFIRM or /NOCONFIRM
- **DEFAULT:** /NOCONFIRM

When the system requests a confirmation, enter YES (also Y or YE) or NO (also N). If you press R or enter any characters other than those described as a YES response, StorHouse interprets them as NO.

**/DEADLINE** Specifies the date and time after the VALIDATE VOLUME command is invoked when the command can start validating extents. When the /DEADLINE expires, the command will complete validation of any additional extents or volumes.

- **FORMAT:**
  - /DEADLINE=absolute\_time
  - /DEADLINE=delta\_time

For a full description of the absolute time and delta time data fields, see Appendix B, “Data Field, Parameter, and Modifier Definitions,” in the *Command Language Reference Manual*.

- **DEFAULT:** If you omit /DEADLINE, the command is not limited by time.

**/LIMIT** Specifies the maximum number of volumes the command can select.

- **FORMAT:** /LIMIT=n

where n is the maximum number of volumes the command can select.

- **DEFAULT:** If you omit /LIMIT, the command is not limited by number of volumes.

**/MAX\_ERRORS** Controls the maximum number of errors StorHouse allows when it finds file extents that are not accessible on a volume. If the number of errors reaches this limit, StorHouse stops processing the current volume.

- **FORMAT:**

- /MAX\_ERRORS=number
  - /MAX\_ERRORS=0
  - /NOMAX\_ERRORS
- DEFAULT: /MAX\_ERRORS=0
- Specifying either /NOMAX\_ERRORS or /MAX\_ERRORS=0 indicates that the number of possible errors is not limited.
- /NODATA** Indicates that the data portion of each file extent should not be read. However, the file extents will be accessed to ensure that they are present on the media.
- FORMAT: /NODATA
  - DEFAULT: No /NODATA modifier
- /PENDING** Indicates whether the command should validate pending extents (performance buffer extents that have not been written back to their resident file set). /PENDING instructs the command to validate pending extents. /NOPENDING instructs the command not to validate pending extents.
- FORMAT:
    - /PENDING
    - /NOPENDING
  - DEFAULT: /PENDING
- /PREVIEW** Indicates that the command will only list the volume IDs of the volumes that would be validated with the command. /PREVIEW does not actually validate the volumes.
- FORMAT: /PREVIEW
  - /DEFAULT: If /PREVIEW is omitted, the command validates volumes.
- /REPORT** Controls the generation of special text responses for the completion of significant actions. /REPORT instructs StorHouse to generate a text response. /NOREPORT instructs StorHouse not to generate a text response.
- FORMAT: /REPORT or /NOREPORT
  - DEFAULT: /NOREPORT
- /RESTART** Indicates whether the command should allow a restart of the validation if interrupted by reaching the deadline time or by a system shutdown. /RESTART instructs the command to allow a restart. /NORESTART instructs the command not to allow a restart.
- FORMAT:
    - /RESTART
    - /NORESTART

- DEFAULT: /RESTART

## Parameter Modifier

**/DIRECTORY** Indicates that volumes in the specified directory will be selected for validation.

- FORMAT:
  - /DIRECTORY=PRIMARY
  - /DIRECTORY=BACKUP
  - /DIRECTORY=ARCHIVE
- DEFAULT: If you omit /DIRECTORY, the system does not select volumes based on a specific directory.
- RESTRICTIONS: /DIRECTORY and /VSET are mutually exclusive.

**/LOCATION** Selects volumes in the specified location for validation.

- FORMAT:
  - /LOCATION=L
  - /LOCATION=Lxx
  - /LOCATION=S
  - /LOCATION=Sxx

where L is a library-level device, s is shelf storage, and xx is the unit number for the device.

- DEFAULT: If you omit /LOCATION, the command does not select volumes based on their location.

**/VALIDATE\_DATE** Indicates to validate only the volumes with a VALIDATE\_DATE timestamp equal to or earlier than the specified date/time.

If /VALIDATE\_DATE is specified without a date/time value, the system will look up the default validate frequency for the volume's media type. If zero, the system will not validate the volume. Otherwise, the system will take the default validate frequency and create a timestamp that many days before the current date/time, and compare that timestamp with the volume's VALIDATE\_DATE timestamp.

- FORMAT:
  - /VALIDATE\_DATE
  - /VALIDATE\_DATE=absolute\_time
  - /VALIDATE\_DATE=delta\_time

For a full description of the absolute time and delta time data fields, see Appendix B, “Data Field, Parameter, and Modifier Definitions,” in the *Command Language Reference Manual*.

- **DEFAULT:** If you omit /VALIDATE\_DATE, the system does not validate volumes based on their VALIDATE\_DATE timestamp.

**/VSET** Validates volumes in the specified volume set.

- **FORMAT:** /VSET=vset\_name
- **FORMAT RESTRICTIONS:** Wild cards are not allowed.
- **DEFAULT:** If you omit /VSET, the system does not use the volume set name to select volumes. In other words, all volumes are validated unless restricted by another modifier.
- **RESTRICTIONS:** /DIRECTORY and /VSET are mutually exclusive.

## Examples

- To validate side A of volume OED34A38DAE, enter:

```
? VALIDATE VOLUME OED34A38DAE:A
```

The system responds with a message:

```
Extents: Total=574 Good=574 Pending=0 Bad=0
```

*Pending* means that the performance buffer contains a copy of an extent that has not yet been written back to optical or tape.

If the system identifies any unreadable (bad) extents, contact your SGI customer support representative.

- To validate all volumes in the BILLING volume set, which currently reside in a library device, and to terminate the command if it is still running after eight hours, enter:

```
? VALIDATE VOLUME * /VSET=BILLING /LOCATION=L /DEADLINE=D8
```

- To validate side A of volume OED34A38DAE and limit the number of possible errors to 5, enter:

```
? VALIDATE VOLUME OED34A38DAE:A /MAX_ERRORS=5
```









---

# System Parameter Descriptions

System parameters help define StorHouse resource management. All parameters have default values. Some values can be changed by the system administrator to meet site requirements.

## System Parameter Characteristics

System parameters have these characteristics:

- Parameter names can contain 1 to 16 characters.
- Default values are assigned at system installation unless the system administrator specifies other values.
- System parameters are static, dynamic, or deferred dynamic:
  - *Dynamic* parameters can be changed while the system is operating and changes take effect immediately. The system changes some dynamic parameters automatically to reflect the current system status. System administrators can change some dynamic parameters, as well.
  - *Deferred dynamic* parameters can be changed while the system is operating, but changes do not take effect until the system is restarted. System administrators can change some deferred dynamic parameters.
  - *Static* parameters cannot be changed while the system is operating. Only SGI personnel can change static parameters.

## Parameter Descriptions

The word SET in the “User Access” field of a parameter description indicates that a system administrator can change the parameter. The word SHOW indicates that the system administrator can show information about the parameter. See the SET SYSTEM and SHOW SYSTEM commands on pages 3-299 and 3-375, respectively, for instructions on how to change and display parameter values.

The StorHouse system parameters follow in alphabetical order.

|               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ADMINLOG      | <p>Specifies the number of versions of the system administration log to be retained by the system.</p> <ul style="list-style-type: none"><li>Expanded Name: Administration log versions</li><li>Type: Dynamic parameter</li><li>Range: 1 through 128</li><li>Default: 10</li><li>User Access: SET, SHOW</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| ARCHIVE_INDEX | <p>Controls whether an internal StorHouse index file is used to track user files to be archived.</p> <ul style="list-style-type: none"><li>Expanded Name: Archive information index</li><li>Type: Static parameter (SGI must set this parameter)</li><li>Range: TRUE, FALSE</li><li>Default: Value assigned by SGI</li><li>User Access: SHOW</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| ATF           | <p>Specifies the default value for the ATF attribute for any new file being PUT to StorHouse. The ATF attribute indicates the importance of access time for the file. If the user omits an ATF value in the PUT or CREATE FILE command, and the file does not exist already, then the file is given the value specified by this parameter.</p> <ul style="list-style-type: none"><li>Expanded Name: Access Time Factor default value</li><li>Type: Dynamic parameter</li><li>Range: 1 through 3</li><li>Default: 3</li><li>User Access: SET, SHOW</li></ul> <p>A value of 1 indicates that a short file access time is very important. A value of 2 indicates that it is moderately important. A value of 3 indicates that access time is minimally important. Files are migrated off of the performance buffer based on their ATF attributes, beginning with files with the largest ATF attribute values.</p> |

|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AUTO_REBUILD_<br>Lxx           | <p>Specifies whether library device rebuild is enabled for library device Lxx. TRUE indicates that a rebuild is to be done if library Lxx needs it at initialization. FALSE indicates that a rebuild is not enabled.</p> <p>Normally, the parameter is set to FALSE. If the volume directory for device Lxx has been corrupted or destroyed, the device is brought down. An SGI customer support representative must investigate the problem. When ready to recover the device, the SGI customer support representative must set the parameter to TRUE and initialize the device. StorHouse rebuilds the volume directory and resets the parameter to FALSE.</p> <ul style="list-style-type: none"><li>Expanded Name: Automatic library rebuild for device Lxx</li><li>Type: Dynamic (StorHouse automatically sets it to FALSE after a rebuild)</li><li>Range: TRUE, FALSE</li><li>Default: FALSE</li><li>User Access: SET, SHOW</li></ul> |
| BACKUP                         | <p>Specifies the default value for the BACKUP attribute for new file versions. The system assigns the BACKUP attribute for all new file versions based on the value of this parameter. TRUE indicates BACKUP. FALSE indicates NOBACKUP.</p> <ul style="list-style-type: none"><li>Expanded Name: Backup file attribute default value</li><li>Type: Dynamic parameter</li><li>Range: TRUE, FALSE</li><li>Default: FALSE</li><li>User Access: SET, SHOW</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| BACKUP_INDEX                   | <p>Controls whether an internal StorHouse index file is used to track user files to be backed up.</p> <ul style="list-style-type: none"><li>Expanded Name: Backup information index</li><li>Type: Static parameter (SGI must set this parameter)</li><li>Range: TRUE, FALSE</li><li>Default: Value assigned by SGI</li><li>User Access: SHOW</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| BARCODE_MIN_n<br>BARCODE_MAX_n | <p>These two parameters specify a range of barcodes that are owned by StorHouse. Barcode ranges are used only for library devices that are shared with non-StorHouse applications. The number of barcode ranges, represented by n, can be 1 to 16. In other words, you can have a maximum of 16 BARCODE_MIN_n and BARCODE_MAX_n parameter pairs.</p> <p>The characters you assign to BARCODE_MIN_n and BARCODE_MAX_n must be members of the allowed character set for the shared library. If your system supports ACSLS or LibraryStation, the valid characters are 0-9, A-Z, #, \$, and (space). You must specify the exact number of characters in the barcode label as the media requires. You can specify only numeric characters for the variable portion of the range. You define the variable portion of the range to suit your site. For example, if</p>                                                                           |

your label is FTK000, the variable portion is 000. If your label is FT0000, the variable portion is 0000. The entire range can be variable.

- Expanded Name: Barcode ranges for shared libraries
- Type: Deferred dynamic parameter (takes effect on system restart)
- Range: Valid barcodes will vary by media (variable portion must be numeric)
- Default: None
- User Access: SET, SHOW

**BKUP\_MAX\_LOAD** Specifies the maximum number of data transfers to be queued, per drive, at one time for write-back operations.

- Expanded Name: Maximum drive load for backups
- Type: Dynamic parameter
- Range: 0 through 5
- Default: 2
- User Access: SET, SHOW

**CALL\_HOME** Indicates whether the Call Home error reporting procedure is enabled or disabled. TRUE specifies that the procedure is enabled and will automatically call the SGI home office or another destination to report error conditions. FALSE specifies that the procedure is disabled.

- Expanded Name: Call Home control
- Type: Dynamic parameter
- Range: TRUE, FALSE
- Default: TRUE
- User Access: SET, SHOW

**CHKP\_ACCOUNT** Specifies the StorHouse account that will be used to write system checkpoint files. If you need to change this parameter, call your SGI customer support representative.

- Expanded Name: Checkpoint account
- Type: Deferred dynamic parameter (takes effect on system restart)
- Range: Any valid StorHouse account identifier
- Default: SYSTEM
- User Access: SET, SHOW

**CHKP\_FSET** Specifies the file set that will be used for system checkpoint files. **CHKP\_VSET** specifies the volume set. If you need to change this parameter, call your SGI customer support representative.

- Expanded Name: Checkpoint information file set
- Type: Deferred dynamic parameter (takes effect on system restart)
- Range: Any valid StorHouse file set name
- Default: CHKPOINT
- User Access: SET, SHOW

- CHKP\_GROUP** Specifies the file access group that will be used for system checkpoint files. If you need to change this parameter, call your SGI customer support representative.
- Expanded Name: Checkpoint group
  - Type: Deferred dynamic parameter (takes effect on system restart)
  - Range: Any valid StorHouse access group name
  - Default: CHKPOINT
  - User Access: SET, SHOW
- CHKP\_LIMIT** Indicates the maximum number of checkpoints to maintain on the checkpoint volume set. Only the last checkpoint is needed to recover a system; thus, StorHouse will automatically delete old checkpoint files to make room for new ones based on this value.
- Expanded Name: Checkpoint limit (maximum)
  - Type: Deferred dynamic parameter (takes effect on system restart)
  - Range: 1 through 99
  - Default: 10
  - User Access: SET, SHOW
- CHKP\_ON** Enables or disables the system's ability to perform a system checkpoint. TRUE enables the CHECKPOINT command. FALSE disables the CHECKPOINT command.
- Expanded Name: Checkpoint control
  - Type: Deferred dynamic parameter (takes effect on system restart)
  - Range: TRUE, FALSE
  - Default: FALSE
  - User Access: SET, SHOW
- CHKP\_TAKEN** Specifies whether a checkpoint has been taken. A valid date and time indicates that a checkpoint has been taken. The value "NOT TAKEN" indicates that a checkpoint has not been taken. The system automatically updates this parameter with the date and time of the most recent successful checkpoint.
- Expanded Name: Checkpoint taken information
  - Type: Dynamic parameter
  - Range: "NOT TAKEN" or a valid date and time
  - Default: Value assigned by SGI
  - User Access: SHOW
- CHKP\_UPD\_NOW** Enables or disables immediate writes directly to the checkpoint volume set of certain non-critical checkpoint information, such as account and group information updates. TRUE enables direct writes of this information to the checkpoint volume set. FALSE disables direct writes of this information to the checkpoint volume set. If this parameter is set to FALSE, any new account and group information will be written to the checkpoint volume set either when the system next writes the system log to the checkpoint volume set or when the system administrator issues the next CHECKPOINT command.

- Expanded Name: Checkpoint update control
  - Type: Dynamic parameter
  - Range: TRUE, FALSE
  - Default: FALSE
  - User Access: SET, SHOW
- CHKP\_VSET** Specifies the volume set that will be used for system checkpoint files. This volume set must be a primary volume set. If you need to change this parameter, call your SGI customer support representative.
- Expanded Name: Checkpoint information volume set
  - Type: Deferred dynamic parameter (takes effect on system restart)
  - Range: Any valid StorHouse volume set name
  - Default: CHKPOINT
  - User Access: SET, SHOW
- DEFAULT\_LD** Specifies the default library device to be used in certain commands when a user does not assign a specific device. For example, the system assigns the DEFAULT\_LD to a volume set when a user creates a volume set without specifying /LIBRARY.
- Expanded Name: Default library device
  - Type: Dynamic parameter
  - Range: Valid library device specification, Lxx, where xx is a unit number
  - Default: L00
  - User Access: SET, SHOW
- DEFAULT\_MED\_did** Specifies the default media for a specific library device (having device identifier did) to be used in certain commands when a specific media is not assigned. For example, the system assigns the DEFAULT\_MED\_did to a volume set when a user creates a volume set without specifying /MEDIA.
- Expanded Name: Default media for a specific library device
  - Type: Dynamic parameter
  - Range: Valid media specification, mmmr, where mm is a media type and r is a recording type
  - Default: Assigned by SGI
  - User Access: SET, SHOW
- DEL\_FILE\_PERM** Indicates whether StorHouse is to write deleted file labels on a removable optical volume (erasable or non-erasable) when files are removed from the deleted file directory. TRUE tells StorHouse to write deleted file labels. FALSE tells StorHouse not to write deleted file labels.
- StorHouse will not write deleted file labels for files written before Release 3.0. It also does not write deleted file labels to volumes that are writelocked (volume state=WRITELOCKED). However, StorHouse does remove the directory entries for these files.



- Expanded Name: Delete files permanently
- Type: Dynamic parameter
- Range: TRUE, FALSE
- Default: FALSE
- User Access: SET, SHOW

**DM\_FNO** Specifies the next file number to use for recovery purposes. A SGI customer support representative will set DM\_FNO when the system is first installed and under certain extended recovery conditions.

- Expanded Name: Directory manager file number
- Type: Dynamic parameter
- Range: 0 through 4294967295
- Default: 0
- User Access: SHOW

**DUPLEX\_BALANCE** Specifies the required degree of similarity between primary and duplex (in other words, backup or archive) media for inclusion in duplex load balancing operations. StorHouse will load balance by reading duplex copies of file extents if StorHouse determines that using the duplex copy rather than the primary will result in better overall system performance.

You can indicate that any media can be load balanced, or you can restrict load balancing based on the media types and recording types of the media containing the primary and duplex copies. Using the two-character media type code followed by the one-character recording type code as a single three-character code, you can restrict load balancing to media whose codes match in the first one, two, or three characters, or to media whose codes are entirely different. The codes of the media containing the duplex copies and the primary copies must match in the number of characters specified by this parameter.

**Note:** You must create backup copies of files using the CREATE BACKUP command or archive copies using the ARCHIVE command if you intend to use duplex processing. In addition, you must set the DUPLEX\_ENABLE system parameter to ALL before StorHouse will perform load balancing for these files.

- Expanded Name: Duplex load balancing media similarity
- Type: Dynamic parameter
- Range:
  - 0 indicates that any two media can be used for load balancing
  - 1 indicates that the first character (the general media type) must match
  - 2 indicates that the first two characters (the general media type and format type) must match
  - 3 indicates that all three characters of the media type and recording type code must match
- Default: 1
- User Access: SET, SHOW

**DUPLEX\_  
DIRECTORY**

Specifies the directory StorHouse will use for duplex processing. Duplex processing allows backup or archive copies of files to be read by users when primary copies are unavailable or when the backup or archive copy will most likely provide quicker access than the primary. You can specify either the BACKUP or ARCHIVE directory.

**Note:** You must create backup copies of files using the CREATE BACKUP command or archive copies using the ARCHIVE command if you want to use duplex processing. In addition, you must set the DUPLEX\_ENABLE system parameter to ALL before StorHouse will perform load balancing for these files.

- Expanded Name: Duplex processing directory name
- Type: Dynamic parameter
- Range: BACKUP, ARCHIVE
- Default: BACKUP
- User Access: SET, SHOW

**DUPLEX\_ENABLE**

Specifies the level of duplex operations to be used by StorHouse. Duplex operations allow duplex (backup or archive) copies of file extents to be read when primaries are unavailable or when the duplex copy will most likely provide quicker access.

**Note:** You must create backup copies of files using the CREATE BACKUP command or archive copies using the ARCHIVE command if you intend to use duplex processing.

- Expanded Name: Enable duplex processing
- Type: Dynamic parameter
- Range:
  - NONE indicates that StorHouse will not use duplex processing.
  - DISABLED instructs StorHouse to access the duplex copy only when the primary copy resides on a disabled volume. (See the SET VOLUME /DISABLE command.) The duplex copies can be in a library device or on a shelf. If the duplex copy is on a shelf, StorHouse will request the operator to load the desired volume into a library device.
  - OFFLINE instructs StorHouse to access the duplex copy when the primary copy resides on a volume in an offline library or on a disabled volume. The duplex copies can be in a library device or on a shelf. If the duplex copy is on a shelf, StorHouse will request the operator to load the desired volume into a library device.
  - ALL instructs StorHouse to access the duplex copy for load balancing, or when the primary copy resides either on a volume in an offline library or on a disabled volume. StorHouse will load balance by reading duplex copies of file extents if StorHouse determines that using the duplex copy rather than the primary will result in better overall system performance. The DUPLEX\_BALANCE system parameter indicates the required degree of similarity between primary and duplex media for inclusion in duplex load

balancing operations. If the duplex or primary copy does not exist or is inaccessible, StorHouse will select the other copy.

**Note:** If you are duplexing primary files that reside on tape, set the duplex level to ALL so StorHouse will always use the duplex copy when the primary copy is unavailable or busy.

- Default: NONE
- User Access: SET, SHOW

**EDC** Specifies the default value for the EDC modifier for file transfers. If the user does not specify /EDC in the PUT command, the modifier is given the value specified by this parameter. If EDC=TRUE, then StorHouse generates EDC codes during the file transfer. If EDC=FALSE, then StorHouse does not generate EDC codes during the file transfer.

- Expanded Name: EDC modifier default value for file transfers
- Type: Static parameter
- Range: TRUE, FALSE
- Default: TRUE
- User Access: SHOW

**EDC\_BOARD** Indicates whether an error detection code (EDC) board is configured in StorHouse. TRUE indicates that EDCs are generated using this board. FALSE indicates that an EDC board is not configured; EDCs are generated by software.

- Expanded Name: EDC board indicator
- Type: Static parameter
- Range: TRUE, FALSE
- Default: FALSE
- User Access: SHOW

**EDC\_COPY** Enables the checking of EDCs on StorHouse when a file is copied from one location to another (when set to TRUE). FALSE disables the checking of EDCs for these copies.

- Expanded Name: File copy EDC indicator
- Type: Static parameter
- Range: TRUE, FALSE
- Default: TRUE
- User Access: SHOW

**EDC\_FROM\_HOST** Enables the checking of EDCs on StorHouse during transfers from a host when set to TRUE. FALSE disables the checking of EDCs on StorHouse for these transfers.

- Expanded Name: Transfer from host EDC indicator
- Type: Static parameter
- Range: TRUE, FALSE
- Default: TRUE
- User Access: SHOW

- EDC\_INTERNAL** Enables the checking of EDCs during internal StorHouse transfers involving an application, such as a VRAM process, when set to TRUE. FALSE disables the checking of EDCs for these transfers.
- Expanded Name: Internal transfer EDC indicator
  - Type: Static parameter
  - Range: TRUE, FALSE
  - Default: TRUE
  - User Access: SHOW
- EDC\_TO\_HOST** Enables the checking of EDCs on StorHouse during transfers to a host when set to TRUE. FALSE disables the checking of EDCs on StorHouse for these transfers.
- Expanded Name: Transfer to host EDC indicator
  - Type: Static parameter
  - Range: TRUE, FALSE
  - Default: FALSE
  - User Access: SHOW
- EDC\_TYPE** Specifies the error detection code (EDC) algorithm used to generate error detection codes for file PUT operations. A value of 0 tells StorHouse not to generate an error detection code. A value of 1 tells StorHouse to use the VWEN32 algorithm. A value of 2 tells StorHouse to use the VWEA9520 algorithm.
- Expanded Name: EDC\_TYPE algorithm for file transfers
  - Type: Static parameter
  - Range: 0 to 3
  - Default: 2
  - User Access: SHOW
- FREE\_POOL\_  
didmmr** Specifies the minimum number of empty volumes desired for the library device free pool identified by the device identification code *did* (for example, L00), the media type *mm*, and the recording type *r*. If the number of empty volumes drops below this minimum, StorHouse sends messages to the console instructing the operator to add one or more blank volumes of the appropriate media to the library.
- The system rejects any request for storage space that cannot be satisfied using on-line storage, so the value of the parameter should be high enough to satisfy any single request. If the parameter is set to 0, StorHouse does not instruct the operator to add blank volumes when the library device has no more empty volumes with the specific media and recording type.
- This system parameter also defines the minimum number of tape cleaning cartridges to be maintained for the indicated library and media/recording type combination.

- Expanded Name: Free volume pool for device did and media mmr
- Type: Dynamic parameter
- Range: 0 through 1 less than the total number of slots in the library device, with an absolute maximum of 255
- Default: 2 for tape cleaning cartridges  
4 for all other media/recording types
- User Access: SET, SHOW

**LABEL** Specifies the last (hexadecimal) character of the volume label for the next blank volume added to the system. This parameter has this definition only when the LABEL\_ALG system parameter is set to 2. If LABEL\_ALG is set to 3, LABEL must be used in conjunction with the LABEL\_MASK system parameter.

- Expanded Name: Last character of next volume label
- Type: Dynamic parameter
- Range: The value must be one hexadecimal character (0-9, uppercase A-F)
- Default: 0
- User Access: SET, SHOW

**LABEL\_ALG** Specifies the method StorHouse will use to generate volume labels for removable media in library devices that do not support bar code readers. A value of 0 tells StorHouse to base the volume label on the time the blank volume is initialized in the system. A value of 1 is reserved for SGI testing. A value of 2 tells StorHouse to use the time method to generate volume labels, but to replace the last character of every label with a hexadecimal constant specified by the LABEL system parameter. A value of 3 tells StorHouse to use customer-defined masks to generate volume labels. This method requires the use of the LABEL\_MASK\_media and LABEL\_media system parameters.

- Expanded Name: Volume label algorithm
- Type: Dynamic parameter
- Range:
  - 0=time method
  - 1=SGI test method
  - 2=time method with last character constant
  - 3=customer-defined mask method
- Default: 3
- User Access: SET, SHOW

**LABEL\_MASK\_  
media** Specifies the volume label format (mask) for the type of media specified in the parameter name. This parameter is used only if the LABEL\_ALG system parameter is set to 3. LABEL\_MASK\_media specifies the format the system will use to generate labels for blank volumes as they are added to the system. This format is based on media and recording type. Your SGI customer support representative can configure the media variable in this parameter as one or more of the following options:

- LABEL\_MASK\_mmr where mm is a specific media type and r is a specific recording type
- LABEL\_MASK\_mm where mm is a specific media type
- LABEL\_MASK\_m where m is a general media type
- LABEL\_MASK (for all types)

**Note:** If LABEL\_ALG is set to 3, there must be a LABEL\_MASK\_media system parameter with the equivalent media variable configuration for each LABEL\_media system parameter defined.

A volume label must be unique for a media type and recording type combination, but the same volume label can be used for different media type and recording type combinations.

- Expanded Name: Volume label mask for media
- Type: Dynamic parameter
- Range: The value must be 1 to 8 characters, where each character can be one of the following:
  - An uppercase alphabetic character (A-Z), a number (0-9), or a special character is used as a constant.
  - A lowercase d is a place holder for a decimal digit (0-9).
  - A lowercase h is a place holder for a hexadecimal character (0-F).
  - A lowercase a is a place holder for an alphanumeric character (0-9, A-Z).
  - A lowercase u is a place holder for an alphabetic character (A-Z).
- Default: dddddddd (an 8-character decimal value)
- User Access: SET, SHOW

**LABEL\_media** Specifies the volume label to assign to the next blank volume added to the system for the media specified in the parameter name. This parameter is used only if the LABEL\_ALG system parameter is set to 3. The configuration of the media variable in this parameter must match the media variable configuration specified by the LABEL\_MASK\_media system parameter. Your SGI customer support representative can configure the media variable in this parameter as one or more of the following options:

- LABEL\_mmr where mm is a specific media type and r is a specific recording type
- LABEL\_mm where mm is a specific media type
- LABEL\_m where m is a general media type
- LABEL (for all types)

A volume label must be unique for a media type and recording type combination, but the same volume label can be used for different media type and recording type combinations.

- Expanded Name: Next volume label for media
- Type: Dynamic parameter
- Range: The value can contain up to 8 characters, as defined by the value of the corresponding LABEL\_MASK\_media system parameter.

- Default: 00000001
  - User Access: SET, SHOW
- LIMIT** Specifies the default value for the LIMIT attribute for primary files. If the user does not specify a LIMIT value in the PUT or CREATE FILE command, and the file does not exist already, then StorHouse gives file's LIMIT attribute the value specified by this parameter. LIMIT does not apply to archive and backup copies of files.
- Expanded Name: LIMIT file attribute default value
  - Type: Dynamic parameter
  - Range: 1 through 32768
  - Default: 32768
  - User Access: SET, SHOW
- LOG\_ACCOUNT** Specifies the account under which StorHouse writes user (management information) logs into user storage. This account must have SETGROUP and PUT privileges and write access to the group into which logs are written.
- If you are using the SGI StorHouse/Performance Monitor product, this system parameter is used to determine the account that will store the StorHouse/Performance Monitor data files in StorHouse.
- Expanded Name: User (management information) log account
  - Type: Dynamic parameter
  - Range: Any valid StorHouse account identifier
  - Default: SYSTEM
  - User Access: SET, SHOW
- LOG\_COMMAND** Enables or disables logging of command execution information records into the user (management information) log. TRUE enables logging. FALSE disables logging.
- Expanded Name: User log control for command execution records
  - Type: Dynamic parameter
  - Range: TRUE, FALSE
  - Default: TRUE
  - User Access: SET, SHOW
- LOG\_COPY** Enables or disables logging of file copy records (from ARCHIVE, CREATE BACKUP, CREATE PRIMARY, RELOCATE, RETIRE VOLUME, and RECOVER VOLUME commands) into the user log. TRUE enables logging. FALSE disables logging.
- Expanded Name: User log control for file copy records
  - Type: Dynamic parameter
  - Range: TRUE, FALSE
  - Default: TRUE
  - User Access: SET, SHOW

**LOG\_DEVICE** Enables or disables logging of device information records into the user (management information) log. TRUE enables logging. FALSE disables logging.

If you are using StorHouse/Performance Monitor, be sure this system parameter is set to TRUE.

- Expanded Name: User log control for device error or state change records
- Type: Dynamic parameter
- Range: TRUE, FALSE
- Default: TRUE
- User Access: SET, SHOW

**LOG\_FILE** Enables or disables logging of file open and close information records into the user (management information) log. TRUE enables logging. FALSE disables logging.

If you are using StorHouse/Performance Monitor, be sure this system parameter is set to TRUE.

- Expanded Name: User log control for file open and close records
- Type: Dynamic parameter
- Range: TRUE, FALSE
- Default: TRUE
- User Access: SET, SHOW

**LOG\_FSET** Specifies the file set into which StorHouse writes user (management information) logs. This file set must exist in the volume set specified by the system parameter LOG\_VSET.

If you are using StorHouse/Performance Monitor, this system parameter determines the file set that will store the StorHouse/Performance Monitor data files in StorHouse.

- Expanded Name: User (management information) log file set
- Type: Dynamic parameter
- Range: Any valid StorHouse file set name
- Default: SERVICE
- User Access: SET, SHOW

**LOG\_GROUP** Specifies the access group into which StorHouse writes user (management information) logs.

If you are using StorHouse/Performance Monitor, this system parameter determines the access group that will store the StorHouse/Performance Monitor data files in StorHouse.

- Expanded Name: User (management information) log access group
- Type: Dynamic parameter
- Range: Any valid StorHouse access group name
- Default: SERVICE
- User Access: SET, SHOW



|              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LOG_HEART    | <p>Enables or disables logging of system heartbeat information records into the user (management information) log. TRUE enables logging. FALSE disables logging.</p> <ul style="list-style-type: none"><li>Expanded Name: User log control for file system heartbeat records</li><li>Type: Dynamic parameter</li><li>Range: TRUE, FALSE</li><li>Default: TRUE</li><li>User Access: SET, SHOW</li></ul>                                                                                                                                   |
| LOG_INTERVAL | <p>Specifies the time between automatic writes of interval log records into the StorHouse user (management information) log. A value of 0 disables interval logging.</p> <p>If you are using StorHouse/Performance Monitor, SGI recommends that you accept the default of 15 minutes.</p> <ul style="list-style-type: none"><li>Expanded Name: User (management information) log interval message time</li><li>Type: Static parameter</li><li>Range: 0 through 1440 (in minutes)</li><li>Default: 15</li><li>User Access: SHOW</li></ul> |
| LOG_MAX      | <p>Specifies the number of user logs to maintain. User logs contain management information.</p> <ul style="list-style-type: none"><li>Expanded Name: User (management information) log maximum</li><li>Type: Static parameter</li><li>Range: 2 through 99</li><li>Default: 3</li><li>User Access: SHOW</li></ul>                                                                                                                                                                                                                         |
| LOG_OPERATOR | <p>Enables or disables logging of operator console message records into the user log. TRUE enables logging. FALSE disables logging.</p> <ul style="list-style-type: none"><li>Expanded Name: User log control for operator console records</li><li>Type: Dynamic parameter</li><li>Range: TRUE, FALSE</li><li>Default: TRUE</li><li>User Access: SET, SHOW</li></ul>                                                                                                                                                                     |
| LOG_POLL     | <p>Enables (TRUE) or disables (FALSE) logging of polled (interval) records into the user (management information) logs.</p> <p>If you are using StorHouse/Performance Monitor, be sure this system parameter is set to TRUE.</p> <ul style="list-style-type: none"><li>Expanded Name: User log control for polled (interval) records</li><li>Type: Dynamic parameter</li><li>Range: TRUE, FALSE</li><li>Default: TRUE</li><li>User Access: SET, SHOW</li></ul>                                                                           |

- LOG\_SECURITY** Enables or disables logging of security violation attempt information records for StorHouse/SM and StorHouse/RM into the user (management information) log. TRUE enables logging. FALSE disables logging.
- Expanded Name: User log control for security violation attempt records
  - Type: Dynamic parameter
  - Range: TRUE, FALSE
  - Default: TRUE
  - User Access: SET, SHOW
- LOG\_SERVER** Enables or disables logging of user (management information) log records for use by the real-time user log server. TRUE enables logging. FALSE disables logging.
- Expanded Name: Server log control for real-time user log feed
  - Type: Dynamic parameter
  - Range: TRUE, FALSE
  - Default: FALSE
  - User Access: SET, SHOW
- LOG\_SIGN** Enables or disables logging of signon and signoff information records for StorHouse/SM, and connect and disconnect records for StorHouse/RM, into the user (management information) log. TRUE enables logging. FALSE disables logging.
- Expanded Name: User log control for signon/signoff records
  - Type: Dynamic parameter
  - Range: TRUE, FALSE
  - Default: TRUE
  - User Access: SET, SHOW
- LOG\_SQL\_STMT** Enables or disables logging of a user's SQL statement into the user (management information) log. TRUE enables logging. FALSE disables logging.
- Expanded Name: User log control for sql\_statement records
  - Type: Dynamic parameter
  - Range: TRUE, FALSE
  - Default: TRUE
  - User Access: SET, SHOW
- LOG\_SQL\_TRANS** Enables or disables logging of transaction statistics records upon the completion of a transaction into the user (management information) log. TRUE enables logging. FALSE disables logging.
- Expanded Name: User log control for sql\_trans records
  - Type: Dynamic parameter
  - Range: TRUE, FALSE
  - Default: TRUE
  - User Access: SET, SHOW

- LOG\_SYSTAT** Enables or disables logging of system startup and shutdown information records into the user (management information) log. TRUE enables logging. FALSE disables logging.
- If you are using StorHouse/Performance Monitor, be sure this system parameter is set to TRUE.
- Expanded Name: User log control for system startup and shutdown records
  - Type: Dynamic parameter
  - Range: TRUE, FALSE
  - Default: TRUE
  - User Access: SET, SHOW
- LOG\_VOLUME** Enables or disables logging of volume mount/dismount/movement information records into the user (management information) log. TRUE enables logging. FALSE disables logging.
- If you are using StorHouse/Performance Monitor, be sure this system parameter is set to TRUE.
- Expanded Name: User log control for volume mount/dismount/movement records
  - Type: Dynamic parameter
  - Range: TRUE, FALSE
  - Default: TRUE
  - User Access: SET, SHOW
- LOG\_VSET** Specifies the volume set into which StorHouse writes user (management information) logs. This volume set must be a primary volume set. The file set specified by the system parameter LOG\_FSET must be in this volume set.
- If you are using StorHouse/Performance Monitor, this system parameter specifies the volume set that will store the StorHouse/Performance Monitor data files in StorHouse.
- Expanded Name: User (management information) log volume set
  - Type: Dynamic parameter
  - Range: Any valid StorHouse volume set name
  - Default: SYSTEM
  - User Access: SET, SHOW
- LOG\_XFER** Enables or disables logging of extent transfer records into the user log. TRUE enables logging. FALSE disables logging.
- Expanded Name: User log control for extent transfer records
  - Type: Dynamic parameter
  - Range: TRUE, FALSE
  - Default: FALSE
  - User Access: SET, SHOW

- MIG\_FAC\_PERIOD** Specifies the number of seconds the system is to wait between migration factor updates (the “half-life” of the migration factor). If you change this parameter, the change does not take effect until after the next update or when the system is restarted, whichever comes first.
- Expanded Name: Migration factor update period
  - Type: Deferred dynamic parameter
  - Range: 0 through 4294967295 (in seconds)
  - Default: 86400 (60 x 60 x 24 = 1 day)
  - User Access: SET, SHOW
- MIG\_FAC\_UNIT** Specifies the number of bytes the system uses as a standard storage unit when calculating the accesses per unit of storage for the migration factor.
- Expanded Name: Migration factor storage unit size
  - Type: Static parameter
  - Range: 0 through 4294967295 (in bytes)
  - Default: 1000000
  - User Access: SHOW
- MIG\_FROM** Enables or disables the system’s ability to perform migrations from the performance buffer. TRUE enables migrations from the performance buffer. FALSE disables migrations from the buffer.
- Expanded Name: Performance buffer migration indicator
  - Type: Dynamic parameter
  - Range: TRUE, FALSE
  - Default: TRUE
  - User Access: SET, SHOW
- MIG\_GENERAL** Specifies the minimum amount of space (in MB) on the performance buffer reserved for the general area (in other words, not available for reservation by groups). If the minimum amount is equal to or greater than the total size of the performance buffer, then the system does not allow reservation of the performance buffer by group.
- Expanded Name: Performance buffer minimum space for general area
  - Type: Static parameter
  - Range: 0-2147483647 (in MB)
  - Default: 0
  - User Access: SHOW
- MIG\_MAX** Specifies the percentage of the performance buffer capacity that should be available after the StorHouse software completes a migration from the buffer.
- The MIG\_MAX goal may not be realized because the buffer may be receiving new file extents at the same time that the software is migrating extents out of the buffer, or because new extents or deleted but not removed files occupy storage space, or because of a combination of these factors.

You cannot set MIG\_MAX lower than MIG\_MIN. If you set both MIG\_MIN and MIG\_MAX to 100, the system migrates extents out of the buffer as soon as they are placed in the buffer.

- Expanded Name: Performance buffer maximum available space
- Type: Dynamic parameter
- Range: 0 through 100 (percent)
- Default: 20 (percent)
- User Access: SET, SHOW

**MIG\_MAX\_LOAD** Specifies the maximum number of purge requests to be queued at one time for migration operations.

- Expanded Name: Maximum purge load for migrations
- Type: Dynamic parameter
- Range: 0 through 100
- Default: 10
- User Access: SET, SHOW

**MIG\_MIN** Specifies the smallest amount of storage that can remain available in the performance buffer before the StorHouse software automatically begins to migrate file extents out of the buffer. MIG\_MIN is expressed as a percentage of the storage capacity of the buffer.

If you set MIG\_MIN to a value higher than the current unused space, StorHouse will begin a migration. You cannot set MIG\_MIN greater than MIG\_MAX for the buffer. If you set both MIG\_MIN and MIG\_MAX to 100, the system migrates extents out of the buffer as soon as they are placed in the buffer.

- Expanded Name: Performance buffer minimum available space
- Type: Dynamic parameter
- Range: 0 through 100 (percent)
- Default: 10 (percent)
- User Access: SET, SHOW

**MIG\_REPOP\_LOAD** Specifies the maximum number of data transfers to be queued at one time for repopulating (copying to) the performance buffer when a file extent is accessed (automatic staging).

- Expanded Name: Performance buffer repopulate load
- Type: Dynamic parameter
- Range: 0 to 100
- Default: 100
- User Access: SET, SHOW

**MIG\_REPOP\_MAX** Specifies the maximum size (in bytes) of an extent that StorHouse will consider for repopulating (copying to) the performance buffer when the file is accessed. If this value is zero, no extents will be considered (automatic staging).

|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                | <ul style="list-style-type: none"> <li>Expanded Name: Performance buffer repopulate maximum</li> <li>Type: Dynamic parameter</li> <li>Range: 0 to 2147483647</li> <li>Default: 2147483647</li> <li>User Access: SET, SHOW</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                           |
| MIG_STAGE_LOAD                 | <p>Specifies the maximum number of data transfers to be queued at one time for manual staging operations (using the STAGE command). If this value is zero, StorHouse suspends manual staging activity until the value is non-zero.</p> <ul style="list-style-type: none"> <li>Expanded Name: Manual staging maximum load</li> <li>Type: Dynamic parameter</li> <li>Range: 0 to 100</li> <li>Default: 10</li> <li>User Access: SET, SHOW</li> </ul>                                                                                                                                                                                             |
| NET1LIMIT through<br>NET6LIMIT | <p>Specifies the maximum number of active sessions that are allowed on the network identified by the corresponding NETTYPE system parameter.</p> <ul style="list-style-type: none"> <li>Expanded Name: Network active session maximum</li> <li>Type: Deferred dynamic (takes effect on system restart)</li> <li>Range 1 through 1000</li> <li>Default: Site and network-specific value assigned by SGI</li> <li>User Access: SET, SHOW</li> </ul>                                                                                                                                                                                              |
| NET1TYPE through<br>NET6TYPE   | <p>Identifies up to six network types supported by StorHouse. A NETTYPE of D indicates the SGI direct connect interface. A NETTYPE of T specifies TCP. Unused NETTYPE system parameters should be assigned a blank value.</p> <ul style="list-style-type: none"> <li>Expanded Name: Network identification</li> <li>Type: Static parameter</li> <li>Range: D, T, or space character</li> <li>Default: Value assigned by SGI</li> <li>User Access: SET, SHOW</li> </ul>                                                                                                                                                                         |
| OPERATOR                       | <p>Indicates whether an operator is present to handle requests. TRUE indicates that the operator is present; FALSE indicates that the operator is not present.</p> <p>If OPERATOR is FALSE:</p> <ul style="list-style-type: none"> <li>EXPORT and IMPORT commands are rejected unless they are already in progress when you set the parameter to FALSE.</li> <li>Requests to load or unload volumes at a library device exchange station are rejected, and the system returns an error for any related command.</li> <li>Requests to access volumes on shelf are rejected, and the system returns an error for any related command.</li> </ul> |

- If an operation requires a blank volume and no blank volumes are available on-line, the system rejects the operation; however, requests for blank volumes are still sent to the operator console.

If you want requests to wait for an operator to process them, whether or not an operator is currently present, set OPERATOR to TRUE.

- Expanded Name: Operator resident indicator
- Type: Dynamic parameter
- Range: TRUE, FALSE
- Default: TRUE
- User Access: SET, SHOW

PERF\_BUF\_FSET Specifies the name of the level F file set used as the performance buffer.

- Expanded Name: Performance buffer file set name
- Type: Static parameter
- Range: Any valid level F file set name
- Default: \$\$BUFFER
- User Access: SHOW

PERF\_BUF\_VSET Specifies the name of the level F volume set that contains the file set for the performance buffer.

- Expanded Name: Performance buffer volume set name
- Type: Static parameter
- Range: Any valid level F volume set name
- Default: MAGDISK
- User Access: SHOW

PRIO\_READ\_REC Specifies the priority of record read operations for use in allocating drive resources. Append operations are fixed at 3. A number greater than 3 is considered high priority and will normally preempt an append operation.

- Expanded Name: Priority for record read operations
- Type: Dynamic parameter
- Range: 3 through 5
- Default: 5
- User Access: SET, SHOW

PRIO\_READ\_SEQ Specifies the priority of sequential read operations for use in allocating drive resources. Append operations are fixed at 3. A number greater than 3 is considered high priority and will normally preempt an append operation.

- Expanded Name: Priority for sequential read operations
- Type: Dynamic parameter
- Range: 3 through 5
- Default: 3
- User Access: SET, SHOW

- PRIO\_RM** Specifies the priority of the StorHouse mount manager process, which manages volume mounts. The priority helps determine how quickly StorHouse processes mount operations with respect to other StorHouse software operations.
- Expanded Name: Mount manager process priority
  - Type: Static parameter
  - Range: -3 through 4
  - Default: 0
  - User Access: SHOW
- PRIO\_RTM** Specifies the priority of StorHouse master transfer processes, which transfer data. The priority helps determine how quickly StorHouse processes transfer operations with respect to other StorHouse software operations.
- Expanded Name: Master transfer process priority
  - Type: Static parameter
  - Range: -3 through 4
  - Default: 3
  - User Access: SHOW
- PRIO\_RTS** Specifies the priority of StorHouse slave transfer processes, which transfer data. The priority helps determine how quickly StorHouse processes transfer operations with respect to other StorHouse software operations.
- Expanded Name: Slave transfer process priority
  - Type: Static parameter
  - Range: -3 through 4
  - Default: 1
  - User Access: SHOW
- PULL\_MESSAGES** Indicates whether the display of XROPULL “pull volume” operator messages is enabled or disabled. TRUE specifies that the messages display. FALSE specifies that they do not display.
- Expanded Name: “Pull volume” operator messages
  - Type: Dynamic parameter
  - Range: TRUE, FALSE
  - Default: FALSE
  - User Access: SET, SHOW
- RELEASE** Specifies the release number of the current StorHouse software in the form x.y, where x is the version number, and y is the release number.
- Expanded Name: StorHouse software release number
  - Type: Static parameter
  - Range: 0 through current release number
  - Default: Current release number (assigned by SGI)
  - User Access: SHOW



**RETENTION\_MODE** Specifies the retention enforcement level for all files.

- Expanded Name: Retention mode
- Type: Static parameter
- Range: BASIC, STRICT
- Default: BASIC
- User Access: SHOW

**Table A-1: RETENTION\_MODE Value Descriptions**

| Value  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BASIC  | <p>Prevents deletion of a retained file, irrespective of user privilege, before the file's retention period expires.</p> <p>Sets the default retention attribute to ZERO when the retention period is not specified at the file and file set level.</p> <p>Enables the retention setting specified on SET FSET to be more or less restrictive than the current setting. For example, a retention setting of 30 days can be changed to 60 days or 20 days.</p>                                                                                               |
| STRICT | <p>Prevents deletion of a retained file, irrespective of user privilege, before the file's retention period expires.</p> <p>Sets the default retention attribute to FOREVER when the retention period is not specified at the file and file set level.</p> <p>Forces StorHouse to write retained files to WORM or compliant media.</p> <p>Forces the retention setting specified on SET FSET to be more rather than less restrictive than the current setting. For example, a retention period of 30 days can be changed to 60 days but not to 20 days.</p> |

The default RETENTION\_MODE value at StorHouse installation is BASIC.

**SITE\_ID** Contains a site identifier assigned by the system administrator at installation.

- Expanded Name: StorHouse site identification code
- Type: Static parameter
- Range: 14 printable or space characters
- Default: Assigned by SGI
- User Access: SHOW

**SMVU\_EOM\_DELAY** Specifies the number of days past the end of the month for which StorHouse/Performance Monitor data are collected. If the current date is within the end-of-month delay period, the new value takes effect immediately. Otherwise, it takes effect at the beginning of the next delay period, which is the beginning of the following month.

- Expanded Name: StorHouse/Performance Monitor end-of-month delay value
- Type: Dynamic parameter
- Range: 1 through 15
- Default: 2
- User Access: SET, SHOW

- SMVU\_LOGGING** Turns the collection of StorHouse/Performance Monitor data on and off.
- Expanded Name: Performance Monitor logging indicator
  - Type: Dynamic parameter
  - Range: TRUE, FALSE
  - Default: TRUE
  - User Access: SET, SHOW
- SMVU\_PUT\_CYCLE** Specifies the interval in hours at which the StorHouse/Performance Monitor data files are written from the StorHouse system directories on magnetic disk to user files on level L storage. Changes to this value take effect during the next PUT cycle.
- Expanded Name: StorHouse/Performance Monitor PUT cycle value
  - Type: Dynamic parameter
  - Range: 1 through 744
  - Default: 24
  - User Access: SET, SHOW
- SMVU\_VER\_LIMIT** Specifies the number of versions of StorHouse/Performance Monitor files kept in StorHouse.
- Expanded Name: Performance Monitor version limit
  - Type: Dynamic parameter
  - Range: 1 through 32768
  - Default: 32768
  - User Access: SET, SHOW
- SNMP\_TRAPS** Controls the StorHouse SNMP trap facility. TRUE activates the facility, allowing trap generation as specified by the SNMPCONFIG file in the home directory for account "operator." Traps can be generated for events such as call home requests and operator messages.
- Expanded Name: SNMP trap generation
  - Type: Dynamic parameter
  - Range: TRUE, FALSE
  - Default: FALSE
  - User Access: SET, SHOW
- SQL\_BKUP\_ACCOUNT** Specifies the account for the metadata backup utility backup files.
- Expanded Name: Metadata backup account
  - Type: Dynamic parameter
  - Range: Any valid account identifier
  - Default: SYSTEM
  - User Access: SET, SHOW

- SQL\_BKUP\_FSET** Specifies the file set for the metadata backup utility backup files. **SQL\_BKUP\_VSET** specifies the volume set.
- Expanded Name: Metadata backup file set
  - Type: Dynamic parameter
  - Range: Any valid file set name
  - Default: RMMDBKUP
  - User Access: SET, SHOW
- SQL\_BKUP\_GROUP** Specifies the file access group for the metadata backup utility backup files.
- Expanded Name: Metadata backup group
  - Type: Dynamic parameter
  - Range: Any valid access group name
  - Default: RMMDBKUP
  - User Access: SET, SHOW
- SQL\_BKUP\_LIMIT** Specifies the maximum number of backup files to maintain for each database. Only the last backup is needed to recover a system, but facilities like Point-In-Time require access to older backups. Therefore, this limit should be set large enough to cover the timeframe these facilities are expected to support. Old backup files are automatically deleted to make room for new ones based on the **SQL\_BKUP\_LIMIT** value.
- Expanded Name: Metadata file limit (maximum)
  - Type: Dynamic parameter
  - Range: 1 through 1100 (approximately 30 years of daily backups)
  - Default: 366 (approximately 7 years of weekly backups)
  - User Access: SET, SHOW
- SQL\_BKUP\_VSET** Specifies the volume set for the metadata backup utility backup files. **SQL\_BKUP\_FSET** specifies the file set.
- Expanded Name: Metadata backup volume set
  - Type: Dynamic parameter
  - Range: Any valid volume set name
  - Default: RMMDBKUP
  - User Access: SET, SHOW
- SQL\_BLD\_INDX\_MEM** Specifies the number of megabytes of memory that can be used in building indexes during data load processing. This memory is used to perform in-memory sorts of blocks of index entries. These blocks are written to disk and later merged to create the index. The larger the memory, the faster the sort, but the fewer the loads that can be performed efficiently (without paging) in parallel. The product of this value and **SQL\_LDR\_MAXLOAD** should not exceed the virtual memory that can be allocated to data loading processes.
- Sorts invoked during user queries will use the value of this parameter to determine the amount of memory used by the sort (the amount used = a minimum of 5 MB or the value of this parameter divided by 10).

- Expanded Name: SQL build index memory
- Type: Dynamic parameter (affects all engines started after the change)
- Range: 10 to 200 MB
- Default: 100
- User Access: SET, SHOW

**SQL\_DROP\_HOLD** Specifies the minimum number of days that must elapse between StorHouse/RM DROP TABLE and PURGE TABLE operations. An error occurs if a user tries to purge a dropped user table before that time has expired.

- Expanded Name: SQL length of time to defer actual table drop actions
- Type: Dynamic parameter (affects all engines started after the change)
- Range: 0 to 65000 days
- Default: 0 days (a purge may occur immediately after a delete operation)
- User Access: SET, SHOW

**SQL\_FTPS\_ONLY** Specifies whether StorHouse disallows insecure (unencrypted) data transfers or logins. TRUE indicates that StorHouse disallows them. FALSE (or a missing parameter) indicates that StorHouse allows them.

- Expanded Name: SQL Secure FTP Only
- Type: Static parameter
- Range: TRUE, FALSE
- Default: FALSE
- User Access: SET, SHOW

**SQL\_HOLD\_DATA** Specifies the number of days to hold table data extents in the performance buffer.

**Note:** Setting values for SQL\_HOLD\_DATA depends on your data usage patterns. Your SGI customer support representative can help you set the appropriate value for your site.

- Expanded Name: SQL hold data extents
- Type: Dynamic parameter (affects all engines started after the change)
- Range: 0 to 32767
- Default: 0
- User Access: SET, SHOW

**SQL\_HOLD\_INDX** Specifies the number of days to hold index data extents in the performance buffer.

**Note:** Setting values for SQL\_HOLD\_INDX depends on your data usage patterns. Your SGI customer support representative can help you set the appropriate value for your site.

- Expanded Name: SQL hold index extents
- Type: Dynamic parameter (affects all engines started after the change)
- Range: 0 to 32767
- Default: 0
- User Access: SET, SHOW

**SQL\_HOLD\_SPECIAL** Specifies the number of days to hold DF and index map extents in the performance buffer.

**Note:** SGI recommends that you use very large retention periods for these extents, particularly if you plan to migrate your data to tape.

- Expanded Name: SQL hold special extents
- Type: Dynamic parameter (affects all engines started after the change)
- Range: 0 to 32767
- Default: 0
- User Access: SET, SHOW

**SQL\_INDX\_TYPE** Specifies the default index type for CREATE INDEX statements specified with StorHouse SQL. (See the *StorHouse Database Administration Guide* for additional release-specific information.)

- Expanded Name: SQL index type
- Type: Dynamic parameter (affects all engines started after the change)
- Range: HASH, VALUE, or RANGE
- Default: HASH
- User Access: SET, SHOW

**SQL\_LDR\_ENGINES** Specifies the maximum number of concurrent StorHouse engines used for load operations. One engine is required per LOAD statement. Requests beyond the maximum limit are queued. If you need to change this parameter, call your SGI customer support representative.

**Note:** Beginning with StorHouse Release 5.2, **SQL\_LDR\_ENGINES** provides the same functions as **SQL\_LDR\_MAXLOAD** and should be set to the same value. If the value differ, StorHouse uses the smaller value.

- Expanded Name: SQL loader maximum LD processes
- Type: Deferred dynamic parameter (takes effect on system restart)
- Range: 1 through 99
- Default: 25
- User Access: SET, SHOW

**SQL\_LDR\_MAXINTO** Specifies the maximum number of INTO TABLE clauses in any one LOAD INTO TABLE statement.

**Caution:** If the maximum number of INTO TABLE clauses is exceeded, the load operation fails.

- Expanded Name: SQL loader maximum INTO TABLE clauses
- Type: Deferred dynamic parameter (takes effect on system restart)
- Range: 1 through 99
- Default: 6
- User Access: SET, SHOW

**SQL\_LDR\_MAXLOAD** Specifies the maximum number of LOAD INTO TABLE statements that can be processed at one time. One engine is required per statement. Requests beyond the limit are queued. If you need to change this parameter, call your SGI customer support representative.

**Note:** Beginning with StorHouse Release 5.2, `SQL_LDR_ENGINES` provides the same functions as `SQL_LDR_MAXLOAD` and should be set to the same value. If the values differ, StorHouse uses the smaller value.

- Expanded Name: SQL loader maximum LOAD processes
- Type: Deferred dynamic parameter (takes effect on system restart)
- Range: 1 through 99
- Default: 25
- User Access: SET, SHOW

**SQL\_MAX\_EXT\_DATA** For table segments, specifies the maximum data extent size (in megabytes) that StorHouse/RM will write to StorHouse. StorHouse/RM checkpoints each data extent when it reaches the maximum size and then creates a new one. StorHouse/RM can recover data extents to the last successful checkpoint.

**Note:** Contact your SGI customer support representative if you require a data extent size smaller than 100 MB.

- Expanded Name: SQL maximum extent data
- Type: Dynamic parameter (affects all engines started after the change)
- Range: 100 through 800 MB
- Default: 400
- User Access: SET, SHOW

**SQL\_MAX\_EXT\_HASH** For hash index files, specifies the maximum data extent size (in megabytes) that StorHouse/RM will write to StorHouse. StorHouse/RM checkpoints each hash index data extent when it reaches the maximum size and then creates a new one. StorHouse/RM can recover index data extents to the last successful checkpoint. SGI recommends that you try to contain a hash index in one data extent. (Keep in mind, however, that the index must fit on the target device.)

- Expanded Name: SQL maximum extent hash
- Type: Dynamic parameter (affects all engines started after the change)
- Range: 100 through 800 MB
- Default: 800
- User Access: SET, SHOW

**SQL\_MAX\_EXT\_VAL** For value index files, specifies the maximum data extent size (in megabytes) that StorHouse/RM will write to StorHouse. StorHouse/RM checkpoints each value index data extent when it reaches the maximum size and then creates a new one. StorHouse/RM can recover index data extents to the last successful checkpoint. SGI recommends that you try to contain a value index in one data extent. (Keep in mind, however, that the index must fit on the target device.)

- Expanded Name: SQL maximum extent value
  - Type: Dynamic parameter (affects all engines started after the change)
  - Range: 100 through 800 MB
  - Default: 500
  - User Access: SET, SHOW
- SQL\_SESSIONS** Specifies the maximum number of StorHouse engines that can run concurrently. This sets the maximum number of connections allowed system-wide. Note that the maximum number of connections includes the number of loads (one engine per LOAD statement) plus the number of queries. Requests beyond the maximum limit are rejected (the error code is XENORES).
- Expanded Name: SQL maximum number of sessions
  - Type: Deferred dynamic parameter (takes effect on system restart)
  - Range: 1 through 99
  - Default: 50
  - User Access: SET, SHOW
- SSPNO** Specifies the maximum number of scheduled events that can execute concurrently. Setting SSPNO to 0 suspends scheduling. If SSPNO is reduced to less than the number of currently running scheduled commands, the scheduler will allow the commands to complete normally rather than terminate them to satisfy a lower SSPNO.
- Expanded Name: Concurrent scheduled event limit
  - Type: Dynamic parameter
  - Range: 0 through 100
  - Default: 10
  - User Access: SET, SHOW
- STORHOUSE\_REL** Specifies the release number of the current StorHouse/RM software in the form x.yz, where x is the version number, y is the release number, and z is a build number. If the value is a null string, StorHouse/RM software is not configured in the system.
- Expanded Name: StorHouse/RM software release number
  - Type: Static parameter
  - Range: Null string or StorHouse/RM release number
  - Default: (Null string)
  - User Access: SHOW
- SYSTEM\_ID** SGI assigns each StorHouse system a unique system identifier.
- Expanded Name: StorHouse system identification code
  - Type: Static parameter
  - Range: 6 decimal characters (value assigned by SGI)
  - Default: Value assigned by SGI
  - Access: SHOW

- TMD\_DISMNT\_DELAY** Applies to libraries that cannot exchange volumes at the drive. In such a library device, when a mounted volume is no longer being used and there are no empty drives in the library device, the system will dismount and unload the volume, and store it in a slot.
- However, to avoid unnecessary volume movement, the system can delay the dismount in case another request for the volume is expected to arrive momentarily. The TMD\_DISMNT\_DELAY parameter specifies this delay time, in seconds.
- Expanded Name: Dedicated device, dismount delay
  - Type: Dynamic parameter
  - Range: 0 to 84600 seconds (1 day)
  - Default: 60
  - User Access: SET, SHOW
- TMD\_HOLD\_HIGH** Specifies the number of seconds the system is to hold a volume in a drive following completion of a high-priority transfer *if* another volume requires the drive. This parameter can be used to avoid unnecessary volume mounts when a series of high-priority transfer requests arrive for the same volume.
- Expanded Name: Dedicated device, high-priority hold time
  - Type: Dynamic parameter
  - Range: 0 to 3600 seconds (1 hour)
  - Default: 2
  - User Access: SET, SHOW
- TMD\_HOLD\_LOW** Specifies the number of seconds the system is to hold a volume in a drive following completion of a low-priority transfer *if* another volume requires the drive. This parameter can be used to avoid unnecessary volume mounts when a series of low-priority transfer requests arrive for the same volume.
- Expanded Name: Dedicated device, low-priority hold time
  - Type: Dynamic parameter
  - Range: 0 to 3600 seconds (1 hour)
  - Default: 2
  - User Access: SET, SHOW
- TMD\_RESV\_SEQ** Specifies the number of seconds the system is to reserve a volume for certain additional sequential processing on sequential media following completion of an extent transfer. This parameter can be used to improve the performance of processing sequential extents on sequential media by avoiding unnecessary positioning time.
- Expanded Name: Dedicated device, sequential reserve time
  - Type: Dynamic parameter
  - Range: 0 to 3600 seconds (1 hour)
  - Default: 1
  - User Access: SET, SHOW



|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TMD_UNLOAD_IDLE | <p>Specifies the number of seconds that StorHouse will wait before dismounting a volume in an idle drive, issuing an unload request for the volume, and storing the volume in a slot. This action prevents unnecessary wear on the drive.</p> <p>If you set this parameter to 0, StorHouse will unload a volume immediately after it is used.</p> <ul style="list-style-type: none"><li>Expanded Name: Dedicated device, unload idle time</li><li>Type: Dynamic parameter</li><li>Range: 0 to 84600 seconds (1 day)</li><li>Default: 3600 (1 hour)</li><li>User Access: SET, SHOW</li></ul> |
| VRAM_CACHE_MAX  | <p>Specifies the maximum number of bytes of cache for records read from a VRAM file. If the value is 0, the system does not cache records for VRAM files.</p> <ul style="list-style-type: none"><li>Expanded Name: VRAM file cache maximum</li><li>Type: Deferred dynamic parameter (takes effect after a restart)</li><li>Range: 0 through 67108864 bytes</li><li>Default: 16777216 bytes</li><li>User Access: SET, SHOW</li></ul>                                                                                                                                                         |
| VRAM_FILE_CACHE | <p>Specifies the maximum number of VRAM FPT frames contained in the magnetic layer frame pool. All KU processes will write to this pool of cached FPT frames. To deactivate this frame cache layer, set this parameter to 0.</p> <ul style="list-style-type: none"><li>Expanded Name: VRAM FPT frames in magnetic layer frame pool</li><li>Type: Deferred dynamic parameter (takes effect after a restart)</li><li>Range: 0 through 100000</li><li>Default: 500</li><li>User Access: SET, SHOW</li></ul>                                                                                    |
| VRAM_FILE_OPEN  | <p>Specifies whether StorHouse is to keep data extents open between record read or update operations for a VRAM file. TRUE indicates that the extents are to be kept open; FALSE indicates that they are to be closed.</p> <ul style="list-style-type: none"><li>Expanded Name: Keep VRAM file extent open indicator</li><li>Type: Static parameter</li><li>Range: TRUE, FALSE</li><li>Default: FALSE</li><li>User Access: SHOW</li></ul>                                                                                                                                                   |
| VRAM_KEYED      | <p>Controls the creation of VRAM KEYED files by users. If this parameter is TRUE, users can create VRAM KEYED files; otherwise, users are not allowed to create this type of file.</p> <p><b>Note:</b> This parameter does not control the creation of VRAM KEYSEQUENTIAL files.</p> <ul style="list-style-type: none"><li>Expanded Name: Control VRAM KEYED file creation</li></ul>                                                                                                                                                                                                        |

- Type: Dynamic parameter
  - Range: TRUE, FALSE
  - Default: FALSE
  - User Access: SET, SHOW
- VRAM\_KEYS\_PN Specifies the minimum capacity of nodes in VRAM K extents in terms of number of keys. VRAM\_KEYS\_PN affects performance of VRAM KEYED files by balancing tree depth (number of nodes) against node processing time. Small values of VRAM\_KEYS\_PN minimize node processing time at the expense of tree depth, whereas large values minimize tree depth at the expense of node processing time. For most general applications, a value of 32 provides satisfactory performance.
- Expanded Name: VRAM keys per node
  - Type: Static parameter
  - Range: 1 through 256
  - Default: 32
  - User Access: SHOW
- VRAM\_MEM\_CACHE Specifies the maximum number of VRAM FPT frames cached in local memory. Each KU process has its own independent frame cache. To deactivate this frame cache layer, set this parameter to 0.
- Expanded Name: VRAM frames cached in memory
  - Type: Deferred dynamic parameter (takes effect after a restart)
  - Range: 0 through 1023
  - Default: 5
  - User Access: SET, SHOW
- VRAM\_NUM\_KC Specifies the maximum number of concurrent VRAM copy processes that can be created. One process is created during StorHouse startup. The system can create additional processes, up to the specified maximum value, as required to process user commands.
- Expanded Name: Number of VRAM copy processes
  - Type: Dynamic parameter
  - Range: 1 through 256
  - Default: 5
  - User Access: SHOW
- VRAM\_NUM\_KS Specifies the maximum number of concurrent VRAM sequential read processes that can be created. One process is created during StorHouse startup. The system can create additional processes, up to the specified maximum value, as required to process user commands.
- Expanded Name: Number of VRAM sequential processing processes
  - Type: Dynamic parameter
  - Range: 1 through 256
  - Default: 10
  - User Access: SHOW

- VRAM\_NUM\_KU** Specifies the maximum number of concurrent VRAM update processes that can be created. One process is created during StorHouse startup. The system can create additional processes, up to the specified maximum value, as required to process user commands.
- Expanded Name: Number of VRAM update processes
  - Type: Dynamic parameter
  - Range: 1 through 256
  - Default: 120
  - User Access: SHOW
- VRAM\_NUM\_KW** Specifies the maximum number of VRAM write processes that can be created. One process is created during StorHouse startup. The system can create additional processes, up to the specified maximum value, as required to process user commands.
- Expanded Name: Number of VRAM write processes
  - Type: Dynamic parameter
  - Range: 1 through 256
  - Default: 10
  - User Access: SHOW
- VRAM\_RELEASE** Specifies the release number of the current VRAM software. If the value is a null string, VRAM software is not configured in the system. If a release number is followed by `_RRA`, the VRAM software includes Relative Record Access capabilities. If a release number is followed by `_KRA`, the VRAM software includes Keyed Record Access capabilities.
- Expanded Name: VRAM software release number
  - Type: Static parameter
  - Range: Null string or VRAM release number plus `_RRA` or `_KRA`
  - Default: (Null string)
  - User Access: SHOW
- VRAM\_UPDATE** Indicates which method of updating VRAM files StorHouse must use for new files and files that have not been updated before. A value of 0 tells StorHouse to use the original update method, and a value of 1 tells StorHouse to use the no-duplicate-record method.
- The original method duplicates previous update records and saves them with the new update records for quick access. The no-duplicate-record method saves new update records as a new component of the file and does not duplicate previous updates. With this method, the system may have to access multiple update components of the file when reading records.
- Expanded Name: VRAM update method indicator
  - Type: Static parameter
  - Range: 0 or 1
  - Default: 0
  - User Access: SHOW

**VSET\_HOLD** Specifies the default value of the volume set HOLD attribute to be used in certain commands when a specific value is not assigned. For example, the system assigns the VSET\_HOLD value to a volume set when a user creates the volume set without specifying the /HOLD modifier. If VSET\_HOLD is TRUE, the attribute is assigned a value of HOLD. If VSET\_HOLD is FALSE, the attribute is assigned a value of NOHOLD.

- Expanded Name: Default volume set HOLD attribute
- Type: Dynamic parameter
- Range: TRUE, FALSE
- Default: FALSE
- User Access: SET, SHOW

**VTF** Specifies the default value for the VTF attribute for new file versions. The VTF attribute determines how long StorHouse leaves new extents of a file version in the performance buffer before copying them to their primary file set. If the user does not specify a VTF value when creating a new file version in a PUT or CREATE FILE command, StorHouse gives the version the value specified by this parameter.

- Expanded Name: Vulnerability Time Factor (VTF) file attribute default value
- Type: Dynamic parameter
- Range: DIRECT, NOW, NEXT
- Default: NEXT
- User Access: SET, SHOW

If you set this parameter to DIRECT, files bypass the performance buffer. Extents are written directly to their primary file set.

NOW tells StorHouse to copy the new file version from the performance buffer to the version's primary file set as part of the CREATE FILE or PUT command.

NEXT tells StorHouse to initially write the files to the performance buffer. The next time a backup occurs, StorHouse copies the file to the file's primary file set.

**XFR\_BUFSIZ** Specifies the size of data transfer buffers in main memory. The value must be given in 1024-byte units. A value of 0 indicates that there are no data transfer buffers in main memory.

- Expanded Name: Main memory transfer buffer size
- Type: Static parameter
- Range: 0 through 1240
- Default: 620
- User Access: SHOW

**XFR\_BUFSIZ\_D** Specifies the size of data transfer buffers in special memory. The value must be given in 1024-byte units. A value of 0 indicates that there are no data transfer buffers in special memory.

- Expanded Name: Special memory transfer buffer size

- Type: Static parameter
  - Range: 0 through 1240
  - Default: 0
  - User Access: SHOW
- XFR\_COUNT Specifies the number of transfer processes (RTs) started during system startup. The number of transfer processes is also the maximum number of data transfers that the system supports concurrently.
- Expanded Name: Number of transfer processes
  - Type: Static parameter
  - Range: 1 through 128
  - Default: 24
  - User Access: SHOW
- XFR\_MEMADR\_D Specifies the physical starting address of the special memory for transfer buffers (if configured).
- Expanded Name: Special memory physical starting address
  - Type: Static parameter
  - Range: 0 through 0
  - Default: 0
  - User Access: SHOW
- XFR\_MEMSIZ\_D Specifies the total physical size of the special memory for transfer buffers (if configured).
- Expanded Name: Special memory physical size
  - Type: Static parameter
  - Range: 0 through 0
  - Default: 0
  - User Access: SHOW



# System Parameter Descriptions

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Parameter Descriptions

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# Data Field, Parameter, and Modifier Definitions

This appendix describes the data fields, parameters, and modifiers that are components of StorHouse commands. Where they are helpful for clarification, examples show various ways to specify these fields. Refer to the command descriptions in Chapter 3, “Command Descriptions” for rules governing the use of these fields in specific commands.

## Data Fields

Data fields used in commands must be expressed as one of the following types:

- Character string
- Numeric data
- Special word or symbol

Some commands also allow you to substitute a wild card in place of a data field or partial data field.

The data fields listed above and other commonly used data fields are described in the following sections.

**Character String** Specifies an object name or identifier.

- **FORMAT:** Character string data fields must contain the printable ASCII characters. Some character string data fields are limited to a subset of these characters. See Appendix C, “ASCII Characters” for a list of the ASCII character set and the printable characters.

StorHouse translates lowercase letters to uppercase letters unless a character string is enclosed in quotes. Character string data fields that contain special characters (including spaces) must be enclosed in quotes, unless the special characters are among the following:

- apostrophe `
- brackets [ ]
- colon :
- dollar sign \$
- period .
- semicolon ;
- underscore \_

You can include the quote symbol in a character string as long as the following conditions are true: (1) you enclose the string in quotes, and (2) you place two quotes wherever a single quote is to appear.

If you specify a non-alphanumeric wild card (other than the asterisk), either with a partial character string field or in place of a character string field containing non-alphanumeric characters, you must enclose the string and the wild card in a single pair of quotes.

- **EXAMPLES:** The following are examples of character string specifications:
  - FILENAME translates to FILENAME
  - filename translates to FILENAME
  - FiLeNaMe translates to FILENAME
  - "FILENAME" translates to FILENAME
  - "filename" translates to filename
  - "FiLeNaMe" translates to FiLeNaMe
  - "FILE NAME" translates to FILE NAME
  - FILE NAME is an invalid string because it contains a special character (the space character) and is not enclosed in quotes
  - "FILE" "NAME" translates to FILE"NAME

**Numeric** Specifies a numeric value.

- **FORMAT:** Numeric data fields must contain the characters 0-9 and are assumed to be positive unless preceded by a minus sign (-). All numerics are treated as decimal integers unless otherwise specified.



**Special Word Or Symbol** A fixed set of one or more characters or special symbols defined by StorHouse to represent an object or function. Special words or symbols (also called *keywords*) can be used as data fields or in conjunction with other data formats.

Special words and symbols are described in the command descriptions in Chapter 3, “Command Descriptions” and in the data field, parameter, and modifier descriptions in this appendix.

## Commonly Used Data Fields

The following fields contain character strings, numeric fields, and/or special symbols. The rules in the preceding sections apply to the use of these data fields.

**Account Identification Code** Specifies an account identification code (aid) that uniquely identifies an account.

- **FORMAT:**
  - aid
  - partial\_aid\*
  - \*

Account identification codes can contain 1 to 12 characters and consist of the following characters: A-Z (uppercase), 0-9, \$ (dollar sign), and \_ (underscore). StorHouse always translates account identification codes to uppercase characters, even if you enclose them in quotes.

**Date And Time** Specified as an absolute time, a delta time, or a schedule time, depending on the command in which you use it.

**Absolute Time** Specifies a calendar date (or date keyword) and clock time as follows:

```
<<day>-<month>-<year>><:<hour><:<minute><:<second>>>
```

or

```
<<date keyword><:<minute><:<second>>>
```

The date subfields can have the following values:

- day – 1 through 31
- month – JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC
- year – 1984 through 9999
- hour – 0 through 23
- minute – 0 through 59
- second – 0 through 59

Midnight is hour 0; noon is hour 12. Days begin at midnight; years begin at midnight on January 1. StorHouse stores absolute time fields as the number of

seconds since midnight, January 1, 1970. If a date/time field has been set to its initial value, but no event has occurred to change it, the system normally displays it as midnight, January 1, 1970.

If you do not specify a day, month or year, the current day, month or year, respectively, is the default. If you do not specify an hour, minute or second, the subfield defaults to zero.

The date keywords can have the following values:

- YESTERDAY
- TODAY
- TOMORROW
- LAST
- NEXT

For example, NEXT:20 indicates the next 8:00 P.M., which could be either today or tomorrow, depending on when you run the command.

**Delta Time** Specifies the amount of time since or before an event.

- **FORMAT:** Specify delta times as follows:

D<days-><hours<:minutes<:seconds>>>

The leading D is required. The subfields can have the following values:

- days – 0 through 9999 (must be followed by a hyphen)
- hours – 0 through 23
- minutes – 0 through 59 (must be preceded by a colon)
- seconds – 0 through 59 (must be preceded by a colon, the number of minutes, and a second colon; or two colons if you do not specify minutes)
- **DEFAULT:** If you do not specify any field, the default value is zero.

**Schedule Time** Specifies how often an event is to take place. It consists of a frequency and an optional multiplier. The frequency specifies the basic rate at which the event will be scheduled. The multiplier can be used to set the actual frequency to an integer multiple of the basic rate.

The start time for a scheduled event is specified separately or defaulted to the current or next possible time.

- **FORMAT:** Schedule times have the following format:

frequency<:n>

The frequency must be one of the following:

- HOURLY (60 minutes)
- DAILY (24 hours)

- WEEKDAYS (Monday, Tuesday, Wednesday, Thursday, and Friday only)
- SATSUN (Saturday and Sunday only)
- MONTHLY (28 to 31 days depending on actual month)
- EOM (end of month – last day)

If an event is started on day  $n$  of a month and given a schedule time of MONTHLY, StorHouse reschedules the event to occur on the  $n$ th day of each month, unless  $n$  is 29, 30, or 31. If an event is started on the 29th, 30th, or 31st of a month and scheduled MONTHLY, StorHouse reschedules the event to occur on the last day of any month that does not have the desired day.

Specify the multiplier  $n$  only for the following frequencies:

- HOURLY –  $n$  must be 1 through 9999
- DAILY –  $n$  must be 1 through 366
- MONTHLY –  $n$  must be 1 through 12

The multiplier follows the frequency and is preceded by a colon, such as:

DAILY:7

This specifies that an event should occur once every 7 days (in other words, weekly).

- EXAMPLES: The following are examples of schedule times:
  - HOURLY:24 schedules an event every 24 hours (equivalent to DAILY).
  - DAILY:7 schedules an event once a week. The day of the week and the time of day depend upon the day and time the event is started.
  - DAILY:14 schedules an event every two weeks.
  - WEEKDAYS schedules an event each weekday.
  - SATSUN schedules an event every Saturday and Sunday.
  - MONTHLY schedules an event once a month. The day of the month and the time of day depend upon the day and time the event is started. If it was started on the 15th of the month at 11AM, StorHouse will schedule it to occur on the 15th of each succeeding month at 11AM.
  - MONTHLY:3 schedules an event every quarter year (every three months).

Device Identification  
Code

Specifies a device identification code (did), which identifies a device, a device component, or a volume location.

- FORMAT:

- `{level}{unit_number}{subunit_type}{subunit_number}` specifies a subunit of the given type
- `{level}{unit_number}{subunit_type}*`  specifies all subunits of the specified type
- `{level}{unit_number}*`  specifies all subunit\_types and all their subunits
- `{level}{unit_number}`  specifies a unit
- `{level}*`  specifies all units, all their subunit\_types, and all their subunits, for the specified level
- `{level}`  specifies all the storage contained in a level of devices
- `*`  specifies all devices

Braces are not part of the specification. Level can apply to a device or to a level of storage. For devices, the valid levels are: F, L, S, and N, for fixed, library, shelf, and network. For a level of storage, the valid levels are: F, S, and L, for fixed, shelf, and library. The valid subunit types are A, D, E, and S for accessor, drive, exchange station, and slot. Subunit types apply to level L only. The `unit_number` and `subunit_number` are hexadecimal characters.

- EXAMPLES: Examples of valid dids are:
  - F01 specifies fixed magnetic disk unit number 1.
  - F\* specifies all fixed magnetic disk units.
  - L00D02 specifies drive number 2 in library device unit number 0.
  - L00D00 specifies drive number 0 in library device unit number 0.
  - L\* specifies all library units and all of their subunits.
  - L specifies all storage in library units.
  - N00 specifies network unit number 0.

File Access Group      Specifies a file access group name.

- FORMAT:
  - `groupname`
  - `partial_groupname*`
  - `*`

Each group name must be unique in a StorHouse system. Access group names can contain 1 to 8 characters and consist of the following ASCII characters: A-Z (uppercase), 0-9, \_ (underscore), and \$ (dollar sign). StorHouse always translates access group names to uppercase characters, even if they are enclosed in quotes.

The wild card is valid if you specify it as the last or only character in the name. Do not specify a wild card in a group name in which you also specify passwords.

- EXAMPLES: Valid file access group names are:
  - ABC specifies the unique, three-character group name ABC
  - AbC specifies the unique, three-character group name ABC
  - \* specifies all possible group names
  - ABC\* specifies all possible group names beginning with the three characters ABC
  - \*ABC specifies an invalid group name because the asterisk is not a valid group name character; you can specify it only on the right side of a partial group name when you use it as a wild card.

File Name Specifies a StorHouse file name.

- FORMAT:
  - filename
  - partial\_filename\*
  - \*

File names are character strings, and all character string specification rules apply. File names must be unique within an access group. StorHouse file names can contain 1 to 56 printable ASCII characters. At least one character must be non-blank. Lowercase characters are distinct from uppercase characters.

The wild card is valid only if you specify it as the last or only character in the name (except for the SHOW FILE command, which allows you to specify multiple wild cards anywhere in the filename parameter). You cannot specify a wild card in a file name in which you have also specified file passwords.

- EXAMPLES: The following are examples of StorHouse file names:
  - “AbC” specifies the unique, three-character file name AbC
  - AbC specifies the unique, three-character file name ABC
  - \* or “\*” specifies all possible file names
  - Ab C is an illegal file name specification because it contains a special character (blank) that is not enclosed in quotes
  - “Ab C” specifies the unique, four-character file name Ab C
  - “AbC”\* specifies all possible file names beginning with the three characters AbC

- “AbC\*” specifies all possible file names beginning with the three characters AbC
- “Ab\*C\*” specifies all possible file names beginning with the four characters Ab\*C
- “Ab\*C\*\*” specifies all possible file names beginning with the five characters Ab\*C\*

File Set Name Specifies a file set name.

- FORMAT:
  - fset\_name
  - partial\_fset\_name\*
  - \*

Each file set name must be unique within a volume set. File set names can contain 1 to 8 characters and consist of the following ASCII characters: A-Z (uppercase), 0-9, \_ (underscore), and \$ (dollar sign). StorHouse always translates file set names to uppercase characters, even if you enclose them in quotes.

Host File Specification Specifies a host file specification.

- FORMAT: host\_filespec or filename

Both fields are character strings, and all character string specification rules apply. You cannot specify a wild card.

Host file specifications identify a file on a host system. They must comply with host requirements for specifying files.

Refer to the description of the specific command to determine how to specify the host file.

Number\_Of\_Bytes Specifies a number of bytes. The number *displays* in 1,000-byte units, KB. You can *specify* the number with K, M, or G when you establish or change it.

- FORMAT: n, nK, nM, or nG

The letter n represents a numeric field. The value of n can range from 0 up to 4294967295. (Do not include commas when specifying a number with more than three digits.) K indicates that the number is in 1,000-byte units; M indicates 1,000,000-byte units; and G indicates 1,000,000,000-byte units.

- DEFAULT: If you do not specify K, M, or G, the number defaults to 1-byte units.

Password Specifies three types of passwords:

- Account passwords
- File passwords
- Group passwords

A description of each of these password data fields follows.

|                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Account Password                    | <p>Specifies an account password.</p> <ul style="list-style-type: none"> <li>• <b>FORMAT:</b> password</li> </ul> <p>Account passwords can be null or contain up to 32 characters, consisting of the following ASCII characters: A-Z (uppercase), 0-9, \$ (dollar sign), and _ (underscore). StorHouse always translates account passwords to uppercase characters. You cannot specify wild cards.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| File And File Access Group Password | <p>Specifies passwords for a file or an access group.</p> <ul style="list-style-type: none"> <li>• <b>FORMAT:</b> <ul style="list-style-type: none"> <li>• &lt;readpw&gt;:&lt;writepw&gt;:&lt;deletepw&gt;</li> <li>• &lt;readpw&gt;:writepw</li> <li>• readpw</li> </ul> </li> </ul> <p>File and file access group passwords can be null or contain up to eight characters, consisting of the following ASCII characters: A-Z (uppercase), 0-9, _ (underscore), and \$ (dollar sign). StorHouse always translates passwords to uppercase characters, even if they are enclosed in quotes.</p> <p>You must specify a read, write, and/or delete password to obtain read, write, and/or delete access (respectively) to a file or group, unless:</p> <ul style="list-style-type: none"> <li>• The file or group is not protected by that type or those types of password.</li> <li>• You have a privilege that bypasses the appropriate access password checks.</li> <li>• The object is a group and you have the appropriate default access to the group.</li> </ul> <p>When used to assign passwords, you must specify a read, write, and/or delete password to control read, write, and/or delete access (respectively) to a file or group.</p> |
| User Identification Code            | <p>Specifies a user using the user identification code (uid). A uid uniquely identifies a user session. The system assigns uids.</p> <ul style="list-style-type: none"> <li>• <b>FORMAT:</b> The uid is a four-digit, decimal, numeric field ranging from 0001 through 9999. If you specify a wild card, you must specify it in place of all four digits; that is, no partial uids are allowed.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Volume Identification Code          | <p>Specifies a volume using a volume identification code (vid).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

- FORMAT:
  - {media\_type}{recording\_type}{volume\_label};{side}
  - {media\_type}{recording\_type}{volume\_label}:\*
  - {media\_type}{recording\_type}{volume\_label}
  - {media\_type}{recording\_type}{partial\_volume\_label}\*
  - {media\_type}{recording\_type}\*
  - {media\_type}\*
  - {partial\_media\_type}\*
    - \*

The braces “{ }” are not part of the specification. The volume label is a character string, and all character string specification rules apply. The wild card is valid only if you specify it as the last or only character in a subfield. For commands that require volume side specifications, you must specify the volume side (A or B) or a wild card in place of the side.

Valid media and recording types are listed as follows:

**Table B-1: Media and Recording Types**

| Media Type | Description                                            | Recording Types | Description                                                                    |
|------------|--------------------------------------------------------|-----------------|--------------------------------------------------------------------------------|
| OA         | Hitachi, 12-inch, removable, optical disk cartridges   | B               | Double-sided, single-density                                                   |
|            |                                                        | D               | Double-sided, double-density                                                   |
| OC         | 12-inch, removable, optical disk cartridges            | A               | 12 GB per side, non-erasable                                                   |
|            |                                                        | B               | 30 GB per side, non-erasable                                                   |
| OE         | Hitachi, 5.25-inch, removable, optical disk cartridges | A               | Hitachi-compatible, double-sided, triple-density (3X), non-erasable volumes    |
|            |                                                        | B               | Hitachi-compatible, double-sided, triple-density (3X), erasable volumes        |
|            |                                                        | C               | Hitachi-compatible, double-sided, quadruple-density (4X), non-erasable volumes |
|            |                                                        | D               | Hitachi-compatible, double-sided, quadruple-density (4X), erasable volumes     |
|            |                                                        | E               | Double-sided, octal-density (8X), 2.6 GB per side, non-erasable volumes        |



Table B-1: Media and Recording Types (Continued)

| Media Type | Description                                                  | Recording Types | Description                                                                                                               |
|------------|--------------------------------------------------------------|-----------------|---------------------------------------------------------------------------------------------------------------------------|
|            |                                                              | F               | Double-sided, octal-density (8X), 2.6 GB per side, erasable volumes                                                       |
| PA         | MAID device emulating a tape library and tape drives         | A               | COPAN Revolution 200T with 27 virtual tape cartridges (VTCs) of 750 GB each, maximum of 7 volumes concurrently powered on |
| TB         | Digital linear tape (DLT) removable magnetic tape cartridges | B               | CompacTapeIV, single-sided, 35 GB (uncompressed) tape volumes                                                             |
|            |                                                              | Z               | 20-pass cleaning cartridge                                                                                                |
| TC         | 3480 standard magnetic tape cartridges                       | A               | Data cartridge (405 MB uncompressed)                                                                                      |
|            |                                                              | B               | Enhanced (E-tape) data cartridge (810 MB uncompressed)                                                                    |
|            |                                                              | Z               | 500-pass cleaning cartridge                                                                                               |
| TD         | High-performance, magnetic tape cartridges (STK 9840)        | A               | Data cartridge (20 GB uncompressed)                                                                                       |
|            |                                                              | Z               | 100-pass cleaning cartridge                                                                                               |
| TE         | High-performance, magnetic tape cartridges (STK T9940)       | A               | Data cartridge (60 GB uncompressed)                                                                                       |
|            |                                                              | B               | Data cartridge (approximately 200 GB uncompressed)                                                                        |
|            |                                                              | Z               | 100-pass cleaning cartridge                                                                                               |
| TF         | LTO Ultrium high-performance, magnetic tape cartridges       | A               | Data cartridge (100 GB uncompressed)                                                                                      |
|            |                                                              | Z               | 100-pass cleaning cartridge                                                                                               |
| TG         | Sony magnetic tape cartridges                                | A               | AIT-2 erasable data cartridge (approximately 50 GB uncompressed)                                                          |
|            |                                                              | B               | AIT-2 non-erasable data cartridge (approximately 50 GB uncompressed)                                                      |
|            |                                                              | C               | AIT-2 erasable data cartridge (approximately 100 GB uncompressed)                                                         |

Table B-1: Media and Recording Types (Continued)

| Media Type | Description                                            | Recording Types | Description                                                           |
|------------|--------------------------------------------------------|-----------------|-----------------------------------------------------------------------|
|            |                                                        | D               | AIT-2 non-erasable data cartridge (approximately 100 GB uncompressed) |
|            |                                                        | Z               | 70-pass cleaning cartridge                                            |
| TH         | 3599 magnetic tape cartridges (for IBM 3592J1A drives) | A               | Rewritable data cartridge (approximately 300 GB)                      |
|            |                                                        | B               | Write-once data cartridge (approximately 300 GB)                      |
|            |                                                        | Z               | 300-pass cleaning cartridge                                           |

- EXAMPLE: OADC2451234:B specifies side B of a volume with media type OA, recording type D, and label C2451234.

Volume Set Name Specifies a volume set name.

- FORMAT:
  - vset\_name
  - partial\_vset\_name\*
  - \*

The volume set name uniquely identifies a volume set within a StorHouse system. Volume set names must contain 1 to 8 characters and consist of the following ASCII characters: A-Z (uppercase), 0-9, \_ (underscore), and \$ (dollar sign). StorHouse always translates volume set names to uppercase characters, even if they are enclosed in quotes.

## Command Parameters

A command parameter tells StorHouse upon what entity the command action is to be performed. Some commands do not require parameters; the parameter is assumed. Parameters consist of one or more data fields.

A parameter can be used in a particular command if it is listed in the “Parameters” portion of the description for that command in Chapter 3, “Command Descriptions.”

## Modifiers

Modifiers limit or enhance the scope of a command or a parameter or provide additional data to be used in the command. There are two kinds of modifiers:

- Command
- Parameter

Each modifier must be preceded by a slash (/).

Some modifiers can be negated or turned off by inserting the letters NO between the slash and the modifier. Generally, the NO option is used to nullify a modifier that is present in a command by default.

### Commonly Used Command Modifiers

Command modifiers limit or provide an additional function for the entire command. Command modifiers are position independent; that is, a command modifier has the same effect no matter where it appears in a command line. The most common command modifiers are described below. Valid command modifiers for a command are listed in the “Command Modifiers” portion of specific command descriptions in Chapter 3, “Command Descriptions.”

Frequently used command modifiers are described in the following sections.

**/CONFIRM** Controls whether StorHouse asks you to confirm a command or each item specified by a parameter. /CONFIRM instructs StorHouse to request a confirmation. /NOCONFIRM instructs the system to execute the command without additional confirmation.

Generally, when the system requests a confirmation, you can enter YES or NO. YES (entered as Y, YE, or YES) directs the system to perform the command. Do not place a space, tab, or other character after the YES response or StorHouse will not recognize it as a YES and will not execute the command. NO (entered N or NO) directs the system not to perform the command. If you press R or enter any characters other than those described as a YES response, StorHouse interprets them as NO.

If the command is to be performed for more than one item, the system generally requests a confirmation of each item and allows an END (entered as E, EN, or END) response. END directs the system not to perform the command for the current item and any further items.

- FORMAT: /CONFIRM or /NOCONFIRM
- DEFAULT: /NOCONFIRM

See individual commands for exceptions.

**/REPORT** Controls the generation of special text responses for the completion of significant actions. **/REPORT** instructs StorHouse to generate a text response. **/NOREPORT** instructs StorHouse not to generate a text response.

- **FORMAT:** **/REPORT** or **/NOREPORT**
- **DEFAULT:** **/NOREPORT**

See individual commands for exceptions.

**/WAIT** Indicates that StorHouse is to wait for an allocated object (such as a locked file version) to become available before attempting to use it in the command execution. For example, if you specify **/WAIT** in a **GET** command, StorHouse waits for a locked file version to be unlocked and then transfers it; without **/WAIT**, StorHouse returns an error status upon finding that the version is locked. If you specify more than one object, as with a wild card, **/WAIT** causes the system to wait for each one to become available.

**Note** **/WAIT** is a parameter modifier in some commands; however, its effect is the same as **/WAIT** as a command modifier.

- **FORMAT:** **/WAIT**
- **DEFAULT:** No **/WAIT** modifier; StorHouse aborts the command or processing of an item if an object is not available.

## Commonly Used Parameter Modifiers

Parameter modifiers perform the following functions:

- Provide additional information about a parameter
- Help to select a particular parameter
- Specify special functions to be performed for the parameter

A parameter modifier's function depends on its placement in the command line:

- To modify a particular parameter, place the modifier after that parameter but before any other parameters in the command line.
- To modify all parameters in a command line, place the modifier after the command but before the first parameter.

The valid modifiers for each command parameter are listed in the "Parameter Modifiers" portion of each command description in Chapter 3, "Command Descriptions." The most common parameter modifiers are described in the following sections.

- /ASCII** Causes the host interface to translate a file's data into ASCII characters in a transportable ASCII character-stream file format while transferring the file to StorHouse.
- **FORMAT:** /ASCII
  - **DEFAULT:** If you omit /ASCII, the default file data format is a binary format. See the individual commands to determine the type of binary format.
  - **RESTRICTIONS:** Do not specify /ASCII with a different format indicator, such as /BINARY, or with files that cannot be translated into ASCII characters.
  - **HOST DEPENDENCIES:** The IBM MVS Disk File Transfer and Callable Interfaces translate EBCDIC to ASCII.
- /ATF** Specifies a value for the ATF (Access Time Factor) attribute for a file version, indicating the importance of access time for a file. Setting an ATF attribute value does not initiate a file transfer directly, but it may cause the file to be migrated in a subsequent migration. Files are migrated off of the performance buffer beginning with files with the largest ATF values.
- **FORMAT:** /ATF={1,2,3}
    - 1 indicates that a short access time for the file is very important.
    - 2 indicates that a short access time is less important.
    - 3 indicates that a short access time is not as important.
  - **DEFAULT:** If you omit /ATF and the file is new, the default is the current value of the ATF system parameter. If you omit /ATF and the file already exists, the default is the current value of the ATF attribute for that file. The ATF attribute is version-dependent.
  - **PRIVILEGE:** ATF privilege
  - **ACCESS REQUIREMENTS:** Delete access to the file.
- /BEFORE** Selects objects (groups, files, accounts) with a date and time value that is the same as or earlier than a specified date and time. See the definition of the modifier in the individual commands to determine the date and time format to use.
- **FORMAT:**
    - /BEFORE=absolute\_time
    - /BEFORE=delta\_time
    - /BEFORE
- Absolute time specifies a calendar date and clock time, as follows:
- ```
<<day>>-<<month>>-<<year>><<:<hour><<:<minute><<:second>>>>
```

where the subfields can have the following values:

- day – 1 through 31
- month – JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC
- year – 1984 through 9999
- hour – 0 through 23
- minute – 0 through 59
- second – 0 through 59

Midnight is hour 0; noon is hour 12. Days begin at midnight; years begin at midnight on January 1. StorHouse stores absolute time fields as the number of seconds since midnight, January 1, 1970. If a date/time field has been set to its initial value, but no event has occurred to change it, the system normally displays it as midnight, January 1, 1970.

If you do not specify a day, month or year, the current day, month or year, respectively, is the default. If you do not specify an hour, minute or second, the subfield defaults to zero.

Delta time specifies the amount of time since or before an event. If you specify a delta time, the system subtracts it from the current date and time to determine the absolute date and time to use. Specify delta time as follows:

D<days-><hours<:minutes<:seconds>>>

The leading D is required. The subfields can have the following values:

- days – 0 through 9999 (must be followed by a hyphen)
- hours – 0 through 23
- minutes – 0 through 59 (must be preceded by a colon)
- seconds – 0 through 59 (must be preceded by a colon, the number of minutes, and a second colon; or two colons if you do not specify minutes)

If you do not specify any field, the default value is zero.

- **DEFAULT:** If you do not specify the modifier, the system does not use a /BEFORE date and time to select objects.

If you specify /BEFORE without a date and time, the date and time default to midnight (hour=0, minute=0, second=0) of the current day.

- **RESTRICTIONS:** If you specify /SINCE, the value of /BEFORE must be the same as or later than the value of /SINCE, or no objects will be selected.

/CYCLE Specifies a number of days after which the second side of a volume in a volume set can be used.

If you assign a non-zero value to /CYCLE, the system deactivates the second side of each volume added to the volume set. The system allocates no space for files on the

second side while it is deactivated. The system activates the second side and deactivates the first side when the specified number of days has passed since the *last* file space was allocated on the first side. If the volume has only one side, a non-zero /CYCLE value will cause the system to do nothing when the value is assigned and to deactivate the first side when the specified number of days has passed since the last file space was allocated on the volume.

If the specified number of days is zero, the system does not deactivate the second side when a volume is added to the volume set.

- FORMAT: /CYCLE=number_of_days

The number_of_days must be a numeric value between 0 and 10000.

- DEFAULT: See the individual commands.

/DEACTIVATE Specifies a number of days after which the system will no longer allocate space for files on a side of a volume in a volume set.

If you assign a non-zero value to /DEACTIVATE, the system deactivates a side of a volume when the specified number of days has passed since the *first* file space was allocated on the side. Once deactivated, the system allocates no additional space for files on the side.

If the specified number of days is zero, the system does not deactivate volume sides based on the first allocation.

- FORMAT: /DEACTIVATE=number_of_days

The number_of_days must be a numeric value between 0 and 10000.

- DEFAULT: See the individual commands.

/EDC Controls the generation of error detection codes by the host interface during data transfer to StorHouse or the checking of error detection codes by the host interface during data transfer from StorHouse. /EDC indicates that the host interface must generate or check error detection codes for a file according to a specified or default algorithm. /NOEDC indicates that the host interface must not generate or check error detection codes.

The host interface checks EDC codes using the error detection code algorithm type that was used when the file was written to StorHouse. If error detection codes were not generated when the file was written, this modifier has no effect.

- FORMAT:
 - /EDC={0,1,2} (Valid only when generating EDC codes.)
 - /EDC
 - /NOEDC

The value assigned to EDC indicates the error detection code algorithm used.

- **DEFAULT:** When codes are being generated, if you omit /EDC, the default is given by the system parameter EDC. If the value of the system parameter EDC is TRUE, the default is /EDC. If the value of EDC is FALSE, the default is /NOEDC. If /EDC is the default or you specify /EDC without a value assigned to it, the default value assigned to /EDC is given by the system parameter EDC_TYPE.

When codes are being checked, if you omit /EDC, the default is /EDC.

/EXPIRE Specifies a number of days after which the system will no longer allocate space for files on a side of a volume in a volume set and will mark the side as expired.

If you assign a non-zero value to /EXPIRE, the system deactivates and marks as expired a side of a volume when the specified number of days has passed since the *last* file space was allocated on the side. Once deactivated, the system allocates no additional space for files on the side.

If the specified number of days is zero, the system does not expire volume sides based on the last allocation.

- **FORMAT:** /EXPIRE=number_of_days

The number_of_days must be a numeric value between 0 and 20000.

- **DEFAULT:** See the individual commands.

/FSET Specifies a file set on which to place a file or on which a file exists.

- **FORMAT:**
 - /FSET=fset_name
 - /FSET=partial_fset_name*
 - /FSET=*

Each file set name must be unique within a volume set. File set names can contain 1 to 8 characters and consist of the following ASCII characters: A-Z (uppercase), 0-9, _ (underscore), and \$ (dollar sign). StorHouse always translates file set names to uppercase characters, even if you enclose them in quotes.

- **DEFAULT:** If you omit /FSET, the system uses your default file set name.

/FULL Selects, formats, and displays all available information for an object (such as a file, account, or volume).

- **FORMAT:** /FULL

- **DEFAULT:** If you do not specify /FULL, the command displays a basic set of information or uses other modifiers to select information to display. See individual commands.
- **PRIVILEGE:** /FULL requires all privileges required by the individual display selection modifiers that it encompasses.
- **ACCESS REQUIREMENTS:** /FULL requires all access types required by the objects for which it displays information.
- **RESTRICTIONS:** /FULL overrides all other display selection modifiers.

/GROUP Specifies a file access group name and, optionally, group passwords, to select a group and access to the group. /GROUP is normally used as part of a file specification (that is, as a modifier to a parameter that specifies a file name). You must obtain a type of access to a group to obtain the same type of access to a file in the group.

- **FORMAT:**
 - /GROUP=groupname:<readpw>:<writepw>:<deletepw>
 - /GROUP=groupname:<readpw>:writepw
 - /GROUP=groupname:readpw
 - /GROUP=groupname
 - /GROUP=partial_groupname*
 - /GROUP=*

If you specify a wild card in the group name, do not specify passwords.

Each group name must be unique in a StorHouse system. Access group names can contain 1 to 8 characters and consist of the following ASCII characters: A-Z (uppercase), 0-9, _ (underscore), and \$ (dollar sign).

Access group passwords can be null or contain up to eight characters, consisting of the following ASCII characters: A-Z (uppercase), 0-9, _ (underscore), and \$ (dollar sign).

- **DEFAULT:**
 - If you omit /GROUP, the default is your current default group and default access rights.
 - If you specify the current default group name and omit one or more passwords, your default access group rights apply for each unspecified password.
 - If you specify a group name that is not the current default group and omit one or more passwords, the default access group rights are ignored, and each unspecified password defaults to null.

- **PRIVILEGE:** SETGROUP privilege is required.

If you specify a wildcard in groupname for groups that have password protection for a required access, you must have a privilege that bypasses the required password checks (for example: ALLPRIVILEGE, ANYGROUP, or SHOGROUP).

- **ACCESS REQUIREMENTS:** See the description of /GROUP and the parameter being modified for individual commands.
- **EXAMPLES:**
 - /GROUP=ABC specifies the unique, three-character group name ABC
 - /GROUP=ABC* specifies all possible group names beginning with the three characters ABC
 - /GROUP=ABC:READIT specifies the group name ABC with the read password READIT
 - /GROUP=ABC::WRITEIT:DELETEIT specifies the group name ABC with the write password WRITEIT and the delete password DELETEIT
 - /GROUP=ABC:::DELETEIT specifies the group name ABC with the delete password DELETEIT

/HOLD The value of the HOLD attribute. StorHouse selects those volumes that have a HOLD attribute value of HOLD for migration out of a library device after those that have a value of NOHOLD.

You can specify the HOLD attribute for individual volumes or for all volumes in a volume set. If you specify a HOLD attribute value for a volume set, StorHouse will assign the new value to volumes added to the volume set after the change but will not change the value for volumes already in the volume set.

- **FORMAT:** /HOLD or /NOHOLD

/HOLD indicates that the specified volumes will be assigned a HOLD attribute value of HOLD, or that volumes will be selected for display based on the HOLD value. /NOHOLD indicates that the specified volumes will be assigned a value of NOHOLD, or that volumes will be selected for display based on the NOHOLD value.

- **DEFAULT:** See individual commands.

/HOSTNAME The combination of the filename parameter and the /HOSTNAME modifier specifies a StorHouse file and a host file to be used in the command.

If you assign the optional host_filespec to /HOSTNAME, the StorHouse host interface translates or expands the host_filespec on the host in your current environment to

produce a host file specification. The host interface uses the result to specify a file in the host only. StorHouse uses the `filename` parameter to specify a file in StorHouse. If either file specification is not valid, StorHouse returns an error response.

- **FORMAT:** `/HOSTNAME` always modifies a `filename` parameter and can have a host file specification assigned to it as follows:

```
filename /HOSTNAME=host_filespec
```

Wild cards are not allowed in `filename` or `host_filespec`. See “Host File Specification” on page B-8, “File Name” on page B-7, and the rest of the description below for `filename` and `host_filespec` requirements.

- **DEFAULT:** If you omit `/HOSTNAME`, StorHouse uses the `filename` parameter to specify a file in StorHouse. The host interface also uses the `filename` parameter as if it were a `host_filespec` assigned to `/HOSTNAME` as described above.

If you specify `/HOSTNAME` without the optional `host_filespec`, the host interface uses the `filename` parameter as if it were a `host_filespec` assigned to `/HOSTNAME`, as described above. In addition, the interface returns all or part of the translated host file specification to StorHouse to specify a file in StorHouse in place of the `filename` parameter. (The host interface determines which parts are returned.)

- **ACCESS REQUIREMENTS:** See individual commands.
- **HOST DEPENDENCIES:** The IBM MVS Host Interactive Interface uses standard TSO prefixing to translate `host_filespec` to a data set specification. This includes the ability to avoid prefixing by enclosing `host_filespec` in apostrophes. In addition, the Interface translates all `host_filespecs` to uppercase, and, if you do not specify the StorHouse file name, the Interface passes the entire translated host data set specification to StorHouse to be used as the file name.

Examples of `/HOSTNAME` translations for IBM MVS hosts appear in the descriptions of GET and PUT.

- **HOST DEPENDENCIES:** The UNIX Host Interactive Interface translates file names using the standard UNIX rules of environment variable substitution. No other processing is performed. Any path names specified in `host_filespec`, either explicitly or as the result of variable substitution, are used as part of the file specification.

Unless you specify a path, either explicitly or as part of an environment variable specification, your current directory is used for the source (PUT) or destination (GET).

Examples of `/HOSTNAME` translations for UNIX hosts appear in the descriptions of GET and PUT.

- /LIMIT (File Attribute)** Specifies a value for the LIMIT attribute for a primary file. If the new value for LIMIT is less than the current number of versions, the new LIMIT takes effect when a version is added, during either the current command or a subsequent one.
- LIMIT applies to primary files only. LIMIT is always 65536 for files in the archive or backup directories.
- **FORMAT:** /LIMIT={1,2,...,32768}
 - **DEFAULT:** If you omit /LIMIT, the default is derived as follows:
 - For a new file, the default is the current value of the LIMIT system parameter.
 - For a new version of an existing file, the default is the current value of the LIMIT attribute for the existing file.
 - **PRIVILEGE:** DELETE privilege
 - **ACCESS REQUIREMENTS:** Delete access to the file
- /LIMIT (Storage Attribute)** Specifies the maximum number of bytes that a file set or volume set is allowed to contain. A LIMIT of 0 bytes indicates that the maximum size is not limited.
- **FORMAT:** /LIMIT=number_of_bytes or /LIMIT=0
- Specify number_of_bytes as: n, nK, nM, or nG
- The number_of_bytes field is a numeric field, and the value of n can range from 0 to 4294967295. (Do not include commas for a number with more than three digits.) K indicates that the number is in 1,000-byte units; M indicates 1,000,000-byte units; and G indicates 1,000,000,000-byte units. If K, M, or G is not present, the number defaults to 1-byte units.
- LIMIT *displays* in 1,000-byte units, KB. You can *specify* LIMIT with K, M, or G when you establish or change it.
- **DEFAULT:** If you omit /LIMIT, the default is /LIMIT=0.
 - **RESTRICTIONS:** If the value of LIMIT is not 0, it must be greater than or equal to the value of the /SIZE modifier.
- /LOCK** Indicates that a file version is to be locked under your account upon completion of the command. Other accounts cannot use the locked file version until it is unlocked.
- **FORMAT:** /LOCK
 - **DEFAULT:** No /LOCK modifier.

- PRIVILEGE: LOCK privilege
- ACCESS REQUIREMENTS: Read, write, or delete access to the file.

/MEMO Specifies up to 32 characters of descriptive text to be added to the StorHouse system files. The text might be used to describe the location of a volume or volume set that is being moved, such as a shelf number. You must enclose the field in quotes if you want to enter special characters or do not want to have lowercase characters translated to uppercase characters.

- FORMAT: /MEMO=text

You can enter a maximum of 32 printable ASCII characters. If you specify no text (for example, /MEMO="" or /NOMEMO), any existing memo for the volume is canceled or volumes that do not have memos are selected for display.

- DEFAULT: See individual commands.

/NEWPASSWORDS Specifies new passwords or replaces current passwords for a file or file access group. It does not let you access the file or group (see /PASSWORDS). /NONEWPASSWORDS assigns null passwords to the file or group.

- FORMAT:
 - /NEWPASSWORDS=<readpw>:<writepw>:<deletepw>
 - /NEWPASSWORDS=<readpw>:<writepw>
 - /NEWPASSWORDS=readpw
 - /NONEWPASSWORDS

File and file access group passwords can be null or contain up to eight characters, consisting of the following ASCII characters: A-Z (uppercase), 0-9, _ (underscore), and \$ (dollar sign). StorHouse always translates passwords to uppercase characters, even if they are enclosed in quotes.

Specifying /NONEWPASSWORDS is the same as specifying /NEWPASSWORDS with null read, write, and delete passwords.

- DEFAULT: If you omit /NEWPASSWORDS and the object already exists, the system retains any existing passwords. If you omit /NEWPASSWORDS and the file or group does not exist, the system assigns null passwords.

If you specify /NEWPASSWORDS but do not specify one or more passwords, the system assigns a null password for each unspecified password.

- RESTRICTIONS: If you specify a wild card in the file or group name, do not specify /NEWPASSWORDS.
- PRIVILEGE: PASSWORD privilege

- ACCESS REQUIREMENTS: Delete access to the file or group.

/PASSWORDS Specifies file access passwords to gain access to an existing file. It does not specify new passwords (see **/NEWPASSWORDS**).

- FORMAT:
 - **/PASSWORDS=<readpw>:<writepw>:<deletepw>**
 - **/PASSWORDS=<readpw>:writepw**
 - **/PASSWORDS=readpw**

File and file access group passwords can be null or contain up to eight characters, consisting of the following ASCII characters: A-Z (uppercase), 0-9, _ (underscore), and \$ (dollar sign). StorHouse always translates passwords to uppercase characters, even if they are enclosed in quotes.

- DEFAULT:
 - If you omit **/PASSWORDS**, the default passwords are null.
 - If you specify **/PASSWORDS** but do not specify one or more passwords, the default for each unspecified password is a null.
- RESTRICTIONS: If you specify a wild card in the file name parameter or group name, do not specify **/PASSWORDS** for the file name parameter.

/PRIVILEGE Specifies one or more privileges to be granted or denied to an account. You grant a privilege by specifying it in the privilege field. You deny a privilege by prefixing the privilege with the letters NO.

If you specify EVERY as a privilege, StorHouse grants all privileges except ALLPRIVILEGE to the account. If you specify NOEVERY as a privilege, StorHouse denies all privileges except ALLPRIVILEGE.

If you grant a privilege, either specifically or with the EVERY specification, and also deny the privilege in the same command, the last occurrence of the privilege takes precedence. That is, if a privilege is granted and then denied in the same command, the account is denied that privilege. The last-occurrence rule also applies to NOEVERY.

- FORMAT:
 - **/PRIVILEGE=<NO>privilege**
 - **/PRIVILEGE=(<NO>privilege<,...>)**

In addition, you can specify EVERY and NOEVERY as privileges.

See Tables D-1 and D-2 in Appendix D, “Access and Command Privileges” for a list and descriptions of the valid privileges.

- DEFAULT: See individual commands.
- PRIVILEGE: See individual commands.
- ACCESS REQUIREMENTS: See individual commands.

/PROTECTION Indicates that the types of passwords protecting a group or file are to be displayed. Password types are displayed as follows:

PROTECTION=RWD

where:

- R, W, and/or D indicates that the object has a read, write, and/or delete password, respectively.
- None indicates that the object is not protected by passwords (all three keys are null).
- FORMAT: /PROTECTION
- DEFAULT: No /PROTECTION modifier.
- ACCESS REQUIREMENTS: Read access to the object.

/RIGHTS Specifies an account user's default access rights (access types) to the default file access group. The letters to the right of the equal sign (such as RIGHTS=R:W:D) indicate the type of access, as follows:

- R immediately to the right of the equal (=) sign indicates read access.
- W immediately to the right of the first colon (:) indicates write access.
- D immediately to the right of the second colon (:) indicates delete access.
- A null in place of an R, W, or D indicates no default access for that type of access. However, if the group has a null password in the corresponding password position, the account user can still obtain that type of access.

/NORIGHTS indicates that the account user has no default access to the default group upon signon.

Note The default access rights are a convenient way to enable access to a group protected by passwords. They cannot prevent access to a group that is not protected by passwords, nor can they prevent access by an account with ALLPRIVILEGE or ANYGROUP privilege.

- FORMAT:
 - /RIGHTS=<<R><:<W>:<D>>>
 - /NORIGHTS

Colons must be positioned in the proper place.

- **DEFAULT:** See individual commands.
- **RESTRICTIONS:** If you do not specify a default group in a /GROUP parameter modifier, /RIGHTS is invalid.
- **PRIVILEGE:** ANYGROUP privilege.
- **ACCESS REQUIREMENTS:** ANYGROUP privilege.

/SINCE Selects objects (groups, files, accounts) with a date and time value that is the same as or later than the specified date and time. See the definition of the modifier in the individual commands to determine the date and time format to use for the object.

- **FORMAT:**
 - /SINCE=absolute_time
 - /SINCE=delta_time
 - /SINCE

Absolute time specifies a calendar date and clock time. Specify absolute time as follows:

```
<<day>-<month>-<year>><:<hour><:<minute><:<second>>>
```

The subfields can have the following values:

- day – 1 through 31
- month – JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC
- year – 1984 through 9999
- hour – 0 through 23
- minute – 0 through 59
- second – 0 through 59

Midnight is hour 0; noon is hour 12. Days begin at midnight; years begin at midnight on January 1. StorHouse stores absolute time fields as the number of seconds since midnight, January 1, 1970. If a date/time field has been set to its initial value, but no event has occurred to change it, the system normally displays it as midnight, January 1, 1970.

If you do not specify a day, month or year, the current day, month or year, respectively, is the default. If you do not specify an hour, minute or second, the subfield defaults to zero.

Delta time specifies the amount of time since or before an event. If you specify a delta time, the system subtracts it from the current date and time to determine the absolute date and time to use. Specify delta time as follows:

D<days-><hours<:minutes<:seconds>>>

The leading D is required. The subfields can have the following values:

- days – 0 through 9999 (must be followed by a hyphen)
- hours – 0 through 23
- minutes – 0 through 59 (must be preceded by a colon)
- seconds – 0 through 59 (must be preceded by a colon, the number of minutes, and a second colon; or two colons if you do not specify minutes)

If you do not specify any field, the default value is zero.

- **DEFAULT:** If you omit /SINCE, the system does not select objects based on a date and time.

If you specify /SINCE without a date and time, the date and time default to midnight (00:00:00) of the current day.

- **RESTRICTIONS:** If you specify /BEFORE, the value of /BEFORE must be the same as or later than the value of /SINCE, or no objects will be selected.

/VERSION Specifies the relative version number of a file. It is normally used as part of a file specification (that is, as a modifier to a parameter that specifies a file name).

- **FORMAT:** /VERSION=version or /VERSION=*

The value of version can range from 0 through -32767 for primary files. For files in the archive and backup directories, the range is 0 through -65535.

- **DEFAULT:** /VERSION=0

/VOLUME Specifies volumes on which an operation is to be performed.

- **FORMAT:**
 - /VOLUME={media_type}{recording_type}{volume_label}:{side}
 - /VOLUME={media_type}{recording_type}{volume_label}:*
 - /VOLUME={media_type}{recording_type}{volume_label}
 - /VOLUME={media_type}{recording_type}{partial_volume_label}*
 - /VOLUME={media_type}{recording_type}*
 - /VOLUME={media_type}*
 - /VOLUME={partial_media_type}*
 - /VOLUME=*

The braces “{ }” are not part of the specification. The volume label is a character string and all character string specification rules apply. The wild card is valid if it is the last or only character in the subfield.

- **DEFAULT:** If you omit /VOLUME, the system is free to select any volume.

/VSET Specifies a volume set on which an object (a file version or a file set) is to be placed or on which it exists.

- **FORMAT:**
 - /VSET=vset_name
 - /VSET=partial_vset_name*
 - /VSET=*

The volume set name uniquely identifies a volume set within a StorHouse system. Volume set names can contain 1 to 8 characters and consist of the following ASCII characters: A-Z (uppercase), 0-9, _ (underscore), and \$ (dollar sign). StorHouse always translates volume set names to uppercase characters, even if they are enclosed in quotes.

- **DEFAULT:** If you omit /VSET, the system uses your default volume set name.

/VTF Specifies a Vulnerability Time Factor (VTF) attribute for a new file or file version. The VTF attribute determines how long StorHouse leaves new extents of a file version in the performance buffer before copying them to their primary file set. The VTF attribute is version-dependent and may vary for different versions of the same file.

- **FORMAT:** /VTF=DIRECT, /VTF=NOW, or /VTF=NEXT

If you specify /VTF=NEXT, the file is written to the performance buffer. The next time a backup occurs, the file is copied to its primary file set.

If you specify /VTF=NOW, StorHouse copies the new version from the performance buffer to its primary file set as part of the command.

If you specify /VTF=DIRECT, the file bypasses the performance buffer. Extents are written directly to their primary file set.

- **DEFAULT:** If you omit /VTF and the file is new, the default is the current value of the VTF system parameter. If you omit /VTF and the file already exists, the default is the current value of the VTF attribute for that file.
- **PRIVILEGE:** VTF privilege.
- **ACCESS REQUIREMENTS:** Delete access to the file.

/WAIT Indicates that StorHouse is to wait for a locked file version to become available before attempting to use it in the command execution. For example, if /WAIT is specified in a GET command, StorHouse waits for a locked file version to be unlocked and then transfers it; without /WAIT, StorHouse returns an error status upon finding that the version is locked. If you specify more than one object, as with a wild card, /WAIT causes the system to wait for each one to become available.

Note /WAIT is a parameter modifier in some commands; however, its effect is the same as /WAIT as a command modifier.

- **FORMAT:** /WAIT
- **DEFAULT:** No /WAIT modifier; StorHouse aborts the command or processing of an item if an object is not available.



Data Field, Parameter, and Modifier Definitions

Modifiers

ASCII Characters

StorHouse uses 8-bit ASCII characters to code character data. The printable ASCII characters are the subset of ASCII characters that normally appear as printed characters (see Table C-1). The ASCII characters and their hexadecimal values are listed in Table C-2.

Table C-1: Printable ASCII Characters

Printable ASCII Characters					
A-Z	uppercase letters	+	plus sign	()	parentheses
a-z	lowercase letters	~	tilde	< >	angle brackets
0-9	digits	,	comma	[]	square brackets
!	exclamation point	-	hyphen	{ }	braces
"	quote	.	period	\	backslash
#	number sign	/	slash	^	circumflex
\$	dollar sign	:	colon	_	underscore
%	percent sign	;	semicolon		vertical bar
&	ampersand	=	equal sign	'	reverse apostrophe
'	apostrophe	?	question mark		space
*	asterisk	@	at sign		

Table C-2: ASCII Characters and Hexadecimal Values

Value	Character	Value	Character
00	NUL	20	(space)
01	SOH	21	! (exclamation point)
02	STX	22	" (quote)
03	ETX	23	# (number sign)
04	EOT	24	\$ (dollar sign)
05	ENQ	25	% (percent sign)
06	ACK	26	& (ampersand)
07	BEL	27	' (apostrophe)
08	BS	28	((parenthesis)
09	HT	29) (parenthesis)
0A	LF	2A	* (asterisk)
0B	VT	2B	+ (plus sign)
0C	FF	2C	, (comma)
0D	CR	2D	- (hyphen)
0E	SO	2E	. (period)
0F	SI	2F	/ (slash)

Table C-2: ASCII Characters and Hexadecimal Values (continued)

Value	Character	Value	Character
10	DLE	30	0
11	DC1	31	1
12	DC2	32	2
13	DC3	33	3
14	DC4	34	4
15	NAK	35	5
16	SYN	36	6
17	ETB	37	7
18	CAN	38	8
19	EM	39	9
1A	SUB	3A	: (colon)
1B	ESC	3B	; (semicolon)
1C	FS	3C	< (angle bracket)
1D	GS	3D	= (equal sign)
1E	RS	3E	> (angle bracket)
1F	US	3F	? (question mark)

Table C-2: ASCII Characters and Hexadecimal Values (continued)

Value	Character	Value	Character
40	@ (at sign)	60	' (reverse apostrophe)
41	A	61	a
42	B	62	b
43	C	63	c
44	D	64	d
45	E	65	e
46	F	66	f
47	G	67	g
48	H	68	h
49	I	69	i
4A	J	6A	j
4B	K	6B	k
4C	L	6C	l
4D	M	6D	m
4E	N	6E	n
4F	O	6F	o

Table C-2: ASCII Characters and Hexadecimal Values (continued)

Value	Character	Value	Character
50	P	70	p
51	Q	71	q
52	R	72	r
53	S	73	s
54	T	74	t
55	U	75	u
56	V	76	v
57	W	77	w
58	X	78	x
59	Y	79	y
5A	Z	7A	z
5B	[(square bracket)	7B	{ (brace)
5C	\ (backslash)	7C	(vertical bar)
5D] (square bracket)	7D	} (brace)
5E	^ (circumflex)	7E	~ (tilde)
5F	_ (underscore)	7F	DEL



Access and Command Privileges

StorHouse commands require you to have certain types of access and command privileges. *Access* privileges allow you to bypass security checks. *Command* privileges allow you to perform specific commands and functions or groups of commands and functions. The command descriptions and summary tables in Chapter 3, “Command Descriptions,” list each command's required access and command privileges.

The following tables describe access and command privileges in more detail. Because having the privilege ALLPRIVILEGE is equivalent to having all access and command privileges, it appears in both tables.

Table D-1: Access Privileges

Privilege	Gives the account user:
ALLPRIVILEGE	All access and command privileges. (This is also a command privilege.)
ANYACCOUNT	Access to any account in order to create, remove, modify, or show account information.
ANYFILE	Access to any file in an accessible group without having to specify a file password. This privilege does not bypass group passwords. The user's types of access to a file are limited to the types of access that the user has to the file's group.
ANYGROUP	Access to any file access group without having to specify a group password. This privilege does not bypass file passwords.
SHOACCOUNT	Access to any account for the purpose of showing account information. It does not allow the user to change anything.
SHOFILE	Access to any file in an accessible group for the purpose of showing file directory information. This privilege does not bypass access group passwords.
SHOGROUP	Access to any file access group for the purpose of showing group information.
SQLADMIN	Database administration (DBA) privilege to access all StorHouse databases. Any account assigned SQLADMIN access privilege is automatically granted DBA privilege and can grant SCAN privilege to other accounts.

Table D-2: Command Privileges

Privilege	Allows the account user to:
ACCOUNT	Execute commands that create or remove accounts, show account information, or modify account parameters and privileges.
ALLOCATION	Execute commands that create, modify, or delete storage resources.
ALLPRIVILEGE	Execute any StorHouse command. Having this privilege is equivalent to having all access and command privileges. (This is also an access privilege.)
ATF	Execute commands that specify ATF values for files.
CONSOLE	Execute commands that enable or disable the display of StorHouse operator messages to the user's own terminal.
COPY	Execute commands that copy files within StorHouse.
DELETE	Execute commands that delete files or change file attributes that control file deletion.
FILE	Execute commands that modify file attributes or show file information.
GET	Execute the GET command and to open a VRAM file for reading and, when used in conjunction with PUT privilege, for updating.
GROUP	Execute commands that create or remove groups, show group information, or modify group passwords.
LOCK	Execute commands that lock and unlock files, or show which files are locked.
MESSAGE	Execute the MESSAGE command.
OPERATOR	Execute commands that control system, user, and device activity. Also allows the user to reply to operator messages.
PASSWORD	Enter commands that change file or access group passwords.
PUT	Execute the PUT command and to open a VRAM file for writing and, when used in conjunction with the GET privilege, for updating.
RECORD	Execute commands for VRAM files.
SCHEDULE	Execute commands that schedule other commands to be executed as background transactions, remove schedule commands from the schedule, or show scheduled commands.
SERVICE	Execute the RUN and SERVICE commands.
SETGROUP	Enter commands that use an access group other than the account's default access group. The account user still must obtain access to the specified group; this privilege does not bypass group passwords.
SHOW	Execute any of the SHOW commands.
SQLCOMMAND	Issue the StorHouse Command Language EXECUTE STH_LOAD command.
SQLEXECUTE	Submit SQL statements to StorHouse/RM.

Table D-2: Command Privileges (continued)

Privilege	Allows the account user to:
SYSTEM	Execute commands for activities that are typically performed by a system administrator.
VTF	Execute commands that specify values for backup control and VTF file attributes.



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NOTE: This index lists all special characters, such as !, /, and numeric characters, before alphabetic characters.

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