

sgi.



StorHouse Multi-View Point-in-Time Recovery

Publication Number
007-6329-001

November 19, 2013

StorHouse®



© 2013 Silicon Graphics International Corp. All Rights Reserved; provided portions may be copyright in third parties, as indicated elsewhere herein. No permission is granted to copy, distribute, or create derivative works from the contents of this electronic documentation in any manner, in whole or in part, without the prior written permission of SGI.

Publication Number: 007-6329-001

LIMITED RIGHTS LEGEND

The software described in this document is "commercial computer software" provided with restricted rights (except as to included open/free source) as specified in the FAR 52.227-19 and/or the DFAR 227.7202, or successive sections. Use beyond license provisions is a violation of worldwide intellectual property laws, treaties and conventions. This document is provided with limited rights as defined in 52.227-14.

TRADEMARKS AND ATTRIBUTIONS

SGI, SGI InfiniteStorage, the SGI logo, Supportfolio, SGI Trusted Edge, and SGI StorHouse are trademarks or registered trademarks of Silicon Graphics International Corp. or its subsidiaries in the United States and other countries. All other trademarks mentioned herein are the property of their respective owners.



Contents

- Welcome 1
 - Purpose of This Manual1
 - Audience2
 - Contents.....2
- Chapter 1: Introducing StorHouse Multi-View Point-In-Time Recovery..... 3
 - About StorHouse.....3
 - About StorHouse/RFS4
 - About StorHouse/CCi4
 - About Multi-View Point-in-Time Recovery5
- Chapter 2: Configuring Multi-View Point-In-Time Recovery 7
 - Installing the StorHouse/RFS Software on the PIT Instance.....8
 - Differences between a Standard StorHouse/RFS Configuration File and a Configuration File for a StorHouse/RFS PIT System8
 - Registering a StorHouse/RFS PIT System.....10
 - Updating and Deploying the StorHouse/RFS Profile to the StorHouse/RFS PIT Platform11
 - Setting Up (Activating) a StorHouse/RFS PIT System15
 - Receiving a Completion Email.....22
 - Monitoring Progress24
 - Enabling End-Users to Browse and Access Files Presented by the Point-in-Time View25

■ ■ ■ ■ Contents

Resetting an Active StorHouse/RFS PIT System.....26
Additional Information29



Welcome

Welcome to *StorHouse Multi-View Point-in-Time Recovery*, a unique StorHouse feature that enables StorHouse/RFS administrators to configure and allow end-user access to views of a StorHouse storage environment in the exact state that existed on a specified date and time. Using these point-in-time system views, end-users can access historical files through the StorHouse/RFS system the same way they access current files.

Purpose of This Manual

This manual introduces StorHouse multi-view point-in-time recovery and provides the steps necessary to implement this feature. It does not contain StorHouse/RFS installation and configuration instructions, which are discussed in other publications.



Audience

This document is for StorHouse/RFS system administrators who are responsible for defining the point-in-time StorHouse/RFS system through StorHouse/CCi, a web-based application for managing StorHouse software modules. At some sites, the system administrator may also be responsible for installing the StorHouse/RFS point-in-time system.

This document assumes that the reader is familiar with StorHouse and StorHouse/RFS concepts, terminology, and operational procedures and knows how to manage the StorHouse/RFS configuration file. It also assumes that the audience knows how to access and use StorHouse/CCi to manage StorHouse modules.

Contents

This manual contains two chapters:

- Chapter 1, “Introducing StorHouse Multi-View Point-in-Time Recovery,” describes StorHouse and defines the StorHouse multi-view point-in-time recovery feature.
- Chapter 2, “Configuring Multi-View Point-in-Time Recovery,” explains the tasks required to implement this feature.



Introducing StorHouse Multi-View Point-In-Time Recovery

This chapter introduces StorHouse and defines the StorHouse multi-view point-in-time recovery feature.

About StorHouse

StorHouse is a comprehensive active archive repository for storing, accessing, and managing massive amounts of structured and unstructured fixed content, near-line historical and persistent archive data, and their associated backup and disaster recovery requirements. It combines industry-leading, scalable storage devices and Open System processors with storage management, relational database management, and file system interface software components. No application program interfaces are required.

While StorHouse is a full-service solution with many unique data and storage management features, it's simplest to view the software as a single, unified network file share (for example, your J:\ drive) with the capability to store/ manage trillions of files and scale to petabytes of data.

About StorHouse/RFS

StorHouse/RFS is the StorHouse file system interface responsible for archiving and retrieving all formats of unstructured data to and from a StorHouse active archive repository. End-users and applications utilize StorHouse/RFS to access the StorHouse "virtual drive" the same way they access any network drive or mount point.

The StorHouse/RFS file system incorporates a unique relational method for storing and indexing file metadata. Because of this innovative relational implementation, there are no inode constraints, pointers, or operating system-imposed limitations on the volume of information or the number of stored objects StorHouse can support. In fact, StorHouse active archives and backups can grow to trillions of files with no performance degradation.

About StorHouse/CCi

StorHouse/CCi is an easy-to-use, web-based interface for managing one or more StorHouse systems, including StorHouse/RFS, regardless of their operating platforms. The interface also provides system diagnostic and reporting tools to keep your StorHouse environment healthy and robust. You can access StorHouse/CCi through any browser-enabled system.

The StorHouse/CCi Main page presents a worldview of your StorHouse environment for an immediate snapshot of all StorHouse and StorHouse/RFS activity. You can drill down for each StorHouse and StorHouse/RFS instance, or node, to further administer and manage those systems.

StorHouse/CCi 3.0 is the system management tool that you will use to implement multi-view point-in-time recovery. This version supports all the functionality necessary to set up and manage PIT systems.



About Multi-View Point-in-Time Recovery

StorHouse multi-view point-in-time recovery enables StorHouse/RFS administrators to re-create views of a StorHouse storage environment in the exact state that existed on a specified date and time. System restoration at any point in time is achievable because StorHouse uses a recoverable relational database to store metadata and other locator information for user files. Metadata includes such things as file names, directory structure, file permissions, and file version.

The metadata from a particular point in time forms the basis for re-creating the system view that existed at the specified time. Once the target StorHouse/RFS metadata has been restored, it is applied to an independent StorHouse/RFS instance called a point-in-time (PIT) system. End-users can access historical files through the PIT system the same way they access current files.

A single StorHouse/RFS PIT system runs with one database and one StorHouse/RFS collector to deliver a specific point-in-time view of the target file system. During the PIT setup process, you specify the original (production) StorHouse/RFS instance, the collector name from that instance, and other configuration parameters.

A single PIT instance can deliver one point-in-time system view. Therefore, if other users need to look at views from different systems, collectors, or time periods, they either must wait for the current user to finish or configure/access a separate/additional PIT system.

For example, assume your StorHouse/RFS system has two collectors, “Accounting” and “Sales,” and you want to enable a point-in-time view from several months ago for the file system associated with the Sales collector. To accomplish this goal, you must create a StorHouse/RFS PIT system and specify the Sales collector and target date/time during the setup process. If you want to concurrently enable a view of the file system associated with the Accounting collector, you must configure a separate PIT system and specify the Accounting collector and target date/time.

Here's how to determine which collector to specify during PIT configuration.

- A representative from the end-user group will tell you the full path to the files or directories that require access.
- Using that information, you'll review the UserDir entries in the collector definitions section of the StorHouse/RFS configuration file on the original system to determine which collector contains the target portion of the file system.

For instance, here is a sample collector definition section from a StorHouse/RFS configuration file. The collector name is SALES, and the user directory for the SALES collector is `\sales`.

```
[SALES]
StagingDir=d:\localrwBig
WaitTime=1
UserDir=\sales
MaxStagingSpace=10000
MaxCollectionSpace=10000
Permissions=R
KeepSubdirectories=0
```

Using this example, if the target files or directories to be accessed have a full path name that begins with `\sales`, then SALES is the collector you'll specify during StorHouse/RFS PIT setup.



Configuring Multi-View Point-In-Time Recovery

This chapter discusses the tasks necessary to configure a StorHouse point-in-time (PIT) instance. These tasks are:

1. Create a PIT system (install StorHouse/RFS on a standalone server or on a virtual machine).
2. Register the StorHouse/RFS PIT system using StorHouse/CCi.
3. Configure the StorHouse/RFS configuration file on the StorHouse/RFS PIT system using the StorHouse/CCi Profile Manager.
4. Set up (activate) the StorHouse/PIT system by entering specific point-in-time parameter values.
5. Present the system for use by end-users to browse and access files within the point-in-time view.

6. Reset the StorHouse/RFS PIT system back to its pre-setup state when it is no longer required.

You use StorHouse/CCi to perform tasks 2, 3, 4, and 6.

Installing the StorHouse/RFS Software on the PIT Instance

To implement point-in-time recovery, your site requires a separate StorHouse/RFS instance – a StorHouse/RFS PIT machine. This dedicated system will read the historic version of the metadata database and provide the point-in-time view of the file system for users to access.

To create a StorHouse/RFS PIT machine, you must set up a server (or a guest under a VM) and install StorHouse/RFS on that system. Because you will be configuring the system to use a specific set of metadata tables related to a historic point-in-time, you do not need to run the StorHouse/RFS `tblgen` utility or change the password in the `rfs.cfg` file – tasks you would normally perform during a standard StorHouse/RFS installation.

The StorHouse/RFS installation process creates a standard StorHouse/RFS configuration file on the platform that will become the PIT instance.

Differences between a Standard StorHouse/RFS Configuration File and a Configuration File for a StorHouse/RFS PIT System

There is a slight difference between a standard StorHouse/RFS configuration file and the configuration file that is required for a StorHouse/RFS PIT system. The StorHouse/RFS configuration file on a PIT system must contain a special section called `[RFS_PIT]` so that StorHouse/CCi can determine whether the PIT system is



Windows- or Linux-based. You add this section to the standard configuration file using the StorHouse/CCi Profile Manager.

The `[RFS_PIT]` section contains two case-sensitive keywords.

- `OwnedBy` – indicates the name of the StorHouse/CCi system that set up the PIT system. Initially the `OwnedBy` keyword value is blank.
- `PitOs` – indicates whether the operating system of the PIT machine is Windows or Linux. The default operating system is Linux.

Here is an example `[RFS_PIT]` section for a Windows PIT system.

```
[RFS_PIT]
OwnedBy=
PitOs=Windows
```

Here is an example `[RFS_PIT]` section for a Linux PIT system.

```
[RFS_PIT]
OwnedBy=
PitOs=Linux
```

Note the following:

- When you set up a PIT system in StorHouse/CCi, the node name of the StorHouse/CCi machine that performed the setup automatically becomes the value of `OwnedBy`. For example:

```
[RFS_PIT]
OwnedBy=linxdev.filetek.com
```

- When you reset a PIT machine, the process restores the original configuration file to the PIT machine and removes the StorHouse/CCi node name. For example:

```
[RFS_PIT]
OwnedBy=
```

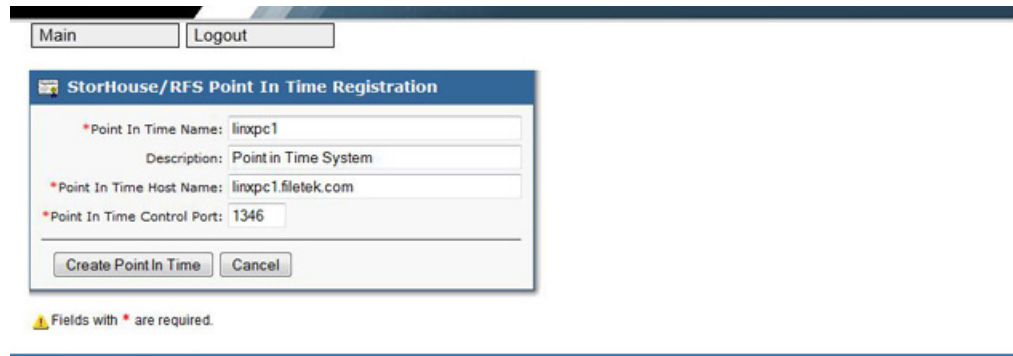
Registering a StorHouse/RFS PIT System

To begin a PIT configuration, you must first register the StorHouse/RFS PIT system in StorHouse/CCi.

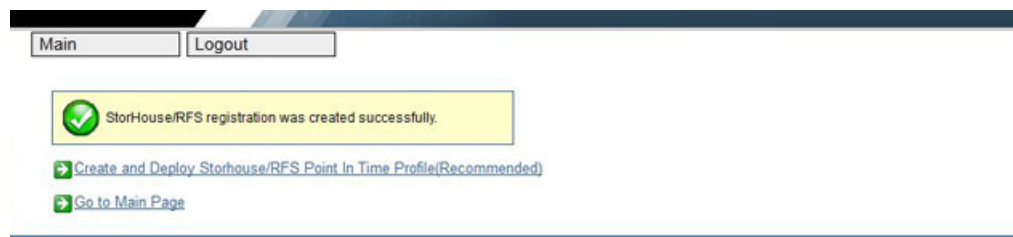
Use the following procedure to register the StorHouse/RFS PIT machine.

▼ To register the StorHouse/RFS PIT machine in StorHouse/CCi

1. Navigate to the StorHouse/CCi **Main** page, place your cursor over **New**, and then select **Point in Time**.
2. In the **Point in Time Name** text box, type a unique name for the StorHouse/RFS PIT system (for example, linxpc1).
3. In the **Description** text box, type an optional description of the StorHouse/RFS PIT system.
4. In the **Point in time Host Name** text box, type the host name or IP address of the target PIT server (for example, 10.1.200.111).
 - To obtain the Host Name for a Linux StorHouse/RFS server, type `hostname` at the server command prompt.
 - To obtain the Host Name for a Windows StorHouse/RFS server, click **My Computer** → **View System Information** → **Computer Name** → **Full Computer Name**.
5. In the **Point in Time Control Port** text box, use the default port 1346 unless otherwise instructed by SGI customer support. The StorHouse/CCi server uses this port to communicate with StorHouse/RFSAS.



- 6. Click **Create Point in Time** to register the StorHouse/RFS PIT system, or click **Cancel** to cancel the registration request.



StorHouse/CCi displays the Registration Completed window.

Updating and Deploying the StorHouse/RFS Profile to the StorHouse/RFS PIT Platform

Now you are ready to update the StorHouse/RFS configuration file on the StorHouse/PIT system using the StorHouse/CCi Profile Manager. A StorHouse/RFS profile is simply a tool for managing the properties, or operating parameters, of a StorHouse/RFS server. In other words, it is the graphical representation of the sections and definitions in the StorHouse/RFS configuration file.

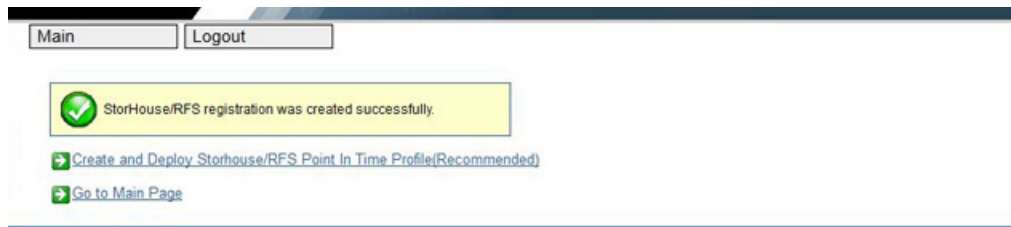
Using the StorHouse/CCi Profile Manager, you must specify a value for the RFS Config Type profile parameter, optionally make any other changes to the profile, and then redeploy the updated profile back to the StorHouse/RFS PIT system. After

redeployment, the StorHouse/RFS configuration file on the PIT system will contain the required [RFS_PIT] section and any other modifications you made.

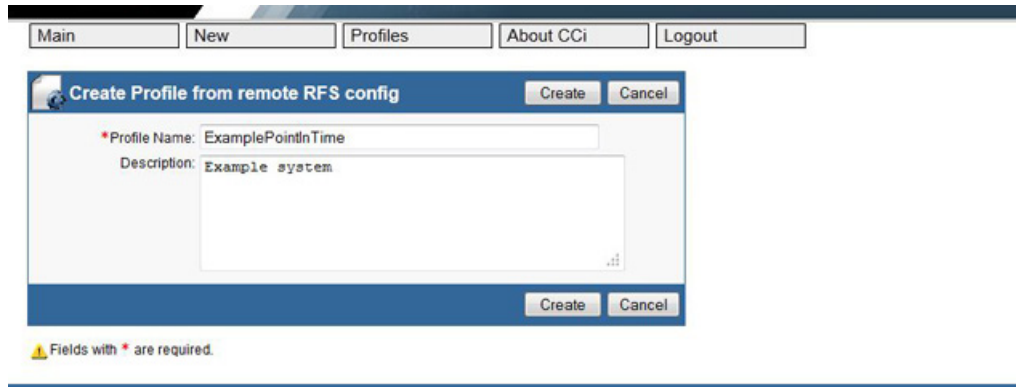
Use the following procedure to update and deploy the StorHouse/RFS profile to the StorHouse/RFS PIT platform.

▼ To update and deploy the StorHouse/RFS profile to the StorHouse/RFS PIT platform

1. On the **StorHouse/RFS Registration Completed** window, click **Create and Deploy StorHouse/RFS Point in Time Profile (Recommended)**.



2. On the **Create Profile from remote RFS Config** window, in the **Profile Name** text box, type a unique name for the new profile.
3. In the **Description** text box, type a description of the new profile.
4. Click **Create** to upload the standard StorHouse/RFS configuration file on the PIT system to the StorHouse/CCi Profile Manager.



StorHouse/CCI displays the General Parameters window where you select the operating system of the StorHouse/RFS PIT platform.

5. On the **General Parameters** window, click the arrow next to **RFS Config Type**, and select a configuration type from the dropdown list. Note there are four choices:
 - Linux Config
 - Windows Config
 - Linux PIT Config
 - Windows PIT Config

You will select either Linux PIT Config or Windows PIT Config, depending on your PIT platform’s operating system. Your choice becomes the value (Linux or Windows) of the PitOS parameter in the [RFS_PIT] section.

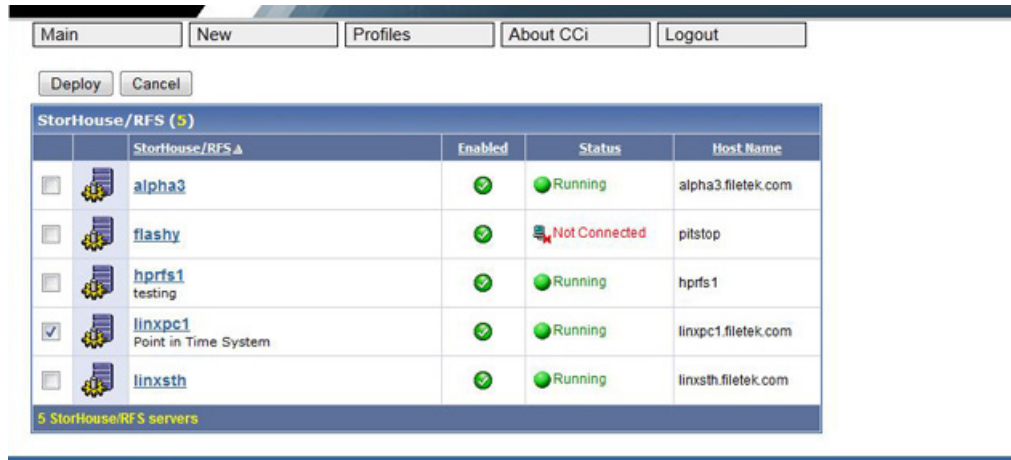
■ ■ ■ ■ Chapter 2 – Configuring Point-In-Time Recovery

The screenshot displays the 'General Parameters' configuration window for RFS. The window title is 'General Parameters' and it includes 'Save', 'Deploy', and 'Cancel' buttons. The configuration fields are as follows:

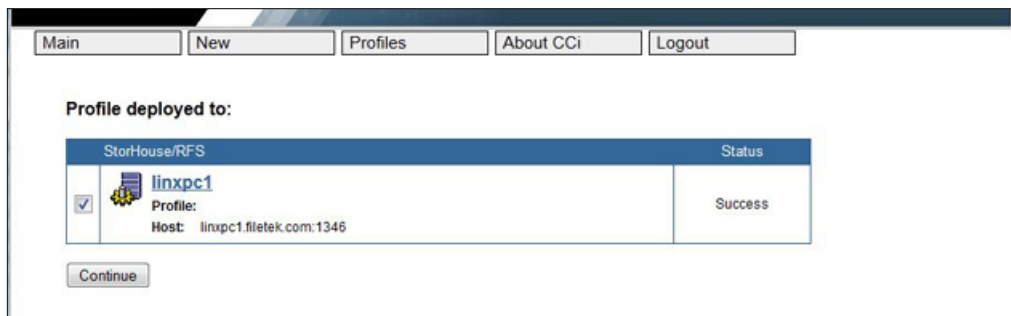
- Version: 4.0i5.0
- Created Time: 2013/03/08 11:14:36
- Updated Time: 2013/03/08 11:14:36
- *Profile Name: ExamplePointInTime
- Description: Example system
- RFS Config Type: Linux PIT Config (highlighted with a red oval)
- *Local Path: /rfs/files/localpath
- *Cache Directory: /rfs/cache
- *LogFile: /rfs/logs/rfs.log
- Safety Path: /rfs2/safety
- File Audit Path:
- Default Domain: filetek.com
- *Max Cache Space: 1000 MB
- Space Available: 12345678901234567890 MB
- *Flush: No
- Allow Unix Equiv Perms: No
- User Name Case: Upper
- Unix Schedule Policy: Other
- Cleanup Timeout: 10 minutes
- File Cleanup Timeout: 480 minutes
- Simulate: No
- Debug: no
- Mail Server:

Buttons for 'Save', 'Deploy', and 'Cancel' are located at the top right and bottom right of the window. A warning icon and text 'Fields with * are required.' are located at the bottom left of the window.

6. Click **Save**.
7. Click **Deploy**.
8. On the **StorHouse/RFS** profile list window, select the checkbox next to the name of your StorHouse PIT system (in this case, linxpc1), and click **Deploy**.



9. Click **Continue** to display the Main StorHouse/CCI window.



Setting Up (Activating) a StorHouse/RFS PIT System

After you register a PIT system, StorHouse/CCI displays the PIT node on the StorHouse/CCI Main window as RFS/PIT. The new PIT system is inactive because you have not yet configured the restoration parameters.

Figure 2-1 illustrates a sample StorHouse/CCi Main window with three RFS systems and one inactive RFS/PIT system.

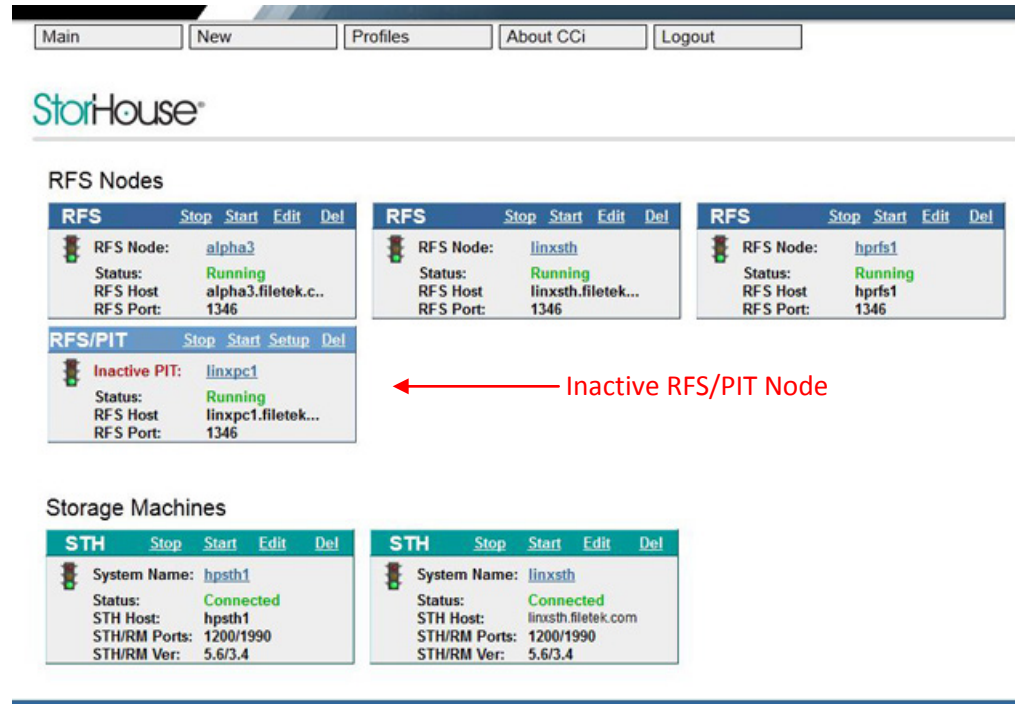


Figure 2-1: Inactive RFS/PIT Node on the StorHouse/CCi Main Window



Table 2-1 defines the processing options for an RFS/PIT system.

Table 2-1: PIT Processing Options

Option	Definition
Start	Starts the StorHouse/RFS software on the PIT system after it has been shutdown. Start applies to both active and inactive PIT systems.
Stop	Stops the StorHouse/RFS software on the PIT system. Stop applies to both active and inactive PIT systems.
Setup	Configures and activates the PIT system to restore a collector from a specific point in time. Setup applies only to inactive PIT instances.
Del	Deletes the StorHouse/RFS PIT node registration. Del applies to both active and inactive PIT instances.
Reset	Returns the PIT system to its initial state (the state before setup). Reset applies only to active PIT instances.

To activate an inactive StorHouse/RFS PIT system, you must click the Setup option associated with that PIT system, and then provide values for the StorHouse/RFS PIT activation parameters. Table 2-2 defines these parameters.

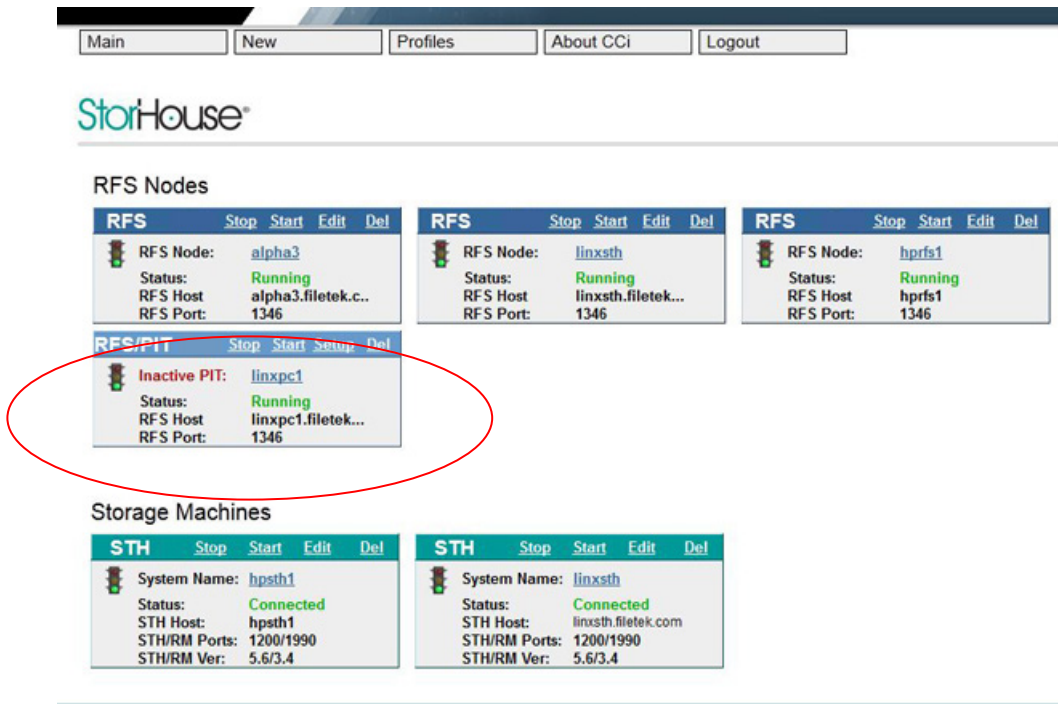
Table 2-2: StorHouse/RFS PIT Activation Parameters

Parameter	Definition
Original RFS Instance	Name of the StorHouse/RFS system that contains the data to be restored at a specific point in time. The Original RFS Instance dropdown list contains all non-PIT RFS instances currently registered on the StorHouse/CCI node.
Collector to Recreate	Name of the collector that wrote the data to the original RFS instance. The Collector to Recreate dropdown list contains all collectors defined on the Original RFS Instance.
Point in Time	Point in time (month, year, hour, minute, and second) for restoring data. If the exact date and time are not a restore point option, StorHouse/CCI will select the closest available restore point.
Enable Alternate Path	Option to store the RFS point-in-time database in an alternate location instead of the default location.
Alternate Path	Full path to the alternate database location. This path points to the alternate file system that will contain the restored database for the selected collector at the selected point in time. One reason for choosing an alternate path is if the standard database location does not have enough space to hold the restored point-in-time database. This textbox displays only if you select Enable Alternate Path.
Enable Email on Completion	Option to send email when the point-in-time restore operation completes.
Email List	Comma-separated list of recipient email addresses for the point-in-time completion email. This email contains the complete StorHouse/RFS PIT restore log (all setup operations). This textbox displays only if you select Enable Email on Completion.

Use the following procedure to set up (activate) an inactive StorHouse/RFS PIT system.

▼ To set up (activate) an inactive StorHouse/RFS PIT system

1. On the StorHouse/CCi **Main** window, find the display for the StorHouse/RFS PIT system you want to activate, and click **Setup**. (In this example, the system to be activated is linxpc1.)



2. On the **Recreate an RFS Collector at a Point in Time** window, click the arrow next to the **Original RFS Instance**, and select a StorHouse/RFS name from the dropdown list.
3. Click the arrow next to **Collector to Recreate**, and select a collector name from the dropdown list.
4. In the **Point in Time** dropdown lists, select a Day, Month, Year, Hour, Minute, and Second. If the exact date/time specified is not an actual restore point option, the software chooses the closet restore point available.

5. Select **Enable Alternate Path** to provide an alternate path for the restore database. Otherwise, skip to step 7.
6. In the **Alternate Path** text box, type the full path to the alternate restore database.
7. Select **Email on Completion** to be notified when the StorHouse/RFS PIT restore process completes. Otherwise, skip to step 9.
8. In the **Email List** text box, type one or more recipient email addresses as a comma-separated list.

MainPIT MainRFS MenuAbout CCILogout

Recreate an RFS Collector at a Point InTime

Original RFS Instance: Collector to Recreate:

Point In Time: Day: Month: Year: Hour: Min: Sec:

Enable Alternate Path: Alternate Path:

Email on Completion: Email List:

9. Click **Continue** to review the setup parameter selections.

Main
PIT Main
RFS Menu
About CCI
Logout

Recreate an RFS Collector at a Point InTime

Original RFS Instance: Collector to Recreate:

Point In Time: Day: Month: Year: Day: Day: Sec:

Enable Alternate Path: Alternate Path:

Email on Completion: Email List:

Restore database: into: on STH:

Note the following:

- In this example, the original StorHouse/RFS instance, alpha3, is running on a StorHouse system, which is also called alpha3.
- This example restores the state of the root collector on the alpha3 StorHouse/RFS instance as of 2:56:21 PM on March 11, 2013.
- The alternate path to the restore database is /filetek/tmp1.
- StorHouse/CCI will send email to jsmith@company.com when the restore completes.
- Instead of restoring the root collector’s RFS database to the default RFS database, StorHouse/CCI will restore it to an alternate file system. In this example, the name of the alternate replicated database is CCI487ab95d, which is located on the StorHouse system called alpha3. StorHouse/CCI automatically generates the alternate database name.

10. Click **Start Restore** to begin the restore process, or click **Cancel**.

When you click Start Restore, StorHouse/CCI displays the following window to indicate that the restore process in is progress.

The highlighted message (in green), “Point In Time Setup Started: Restore Running,” indicates setup is underway and restore/re-creation of the original StorHouse/RFS database is running.

Receiving a Completion Email

If so enabled, StorHouse/CCi sends an email to all addresses in the Email on Completion recipient list when the restore process completes. The email contains a complete log of all operations performed during PIT setup. The email content can also be used to help diagnose any setup errors.

Figure 2-2 illustrates a sample successful completion email.

```
RFS Pit[e43b695d2fe6408480f71e425376f4cc] successfully restored database:
RFS as: CCIc574af7e on alpha3
```

```
Restore Database
Begin to restore database: /filetek/sth/sthdb/CCIc574af7e.dbs...
Verify the existence of database...
Verifying existence of META_BKUP.RFS/version=0 DB CCIc574af7e doesn't
exist.....
Creating /filetek/sth/sthdb/CCIc574af7e.dbs
Database CCIc574af7e needs to be offline.
Sending shutdown message to EAM.
```



```
sthdb_restore Begin unpacking archive META_BKUP.RFS
sh: sthjou_cycle: command not found
Database RFS journal cycled.
Meta Restore completed successfully.
Database restore operation complete \DBs processed 1 Successful 1 Failed
0\ CCI RETURN: 0

Check Journaling
  File: `/filetek/sth/sthdb/CCIC574af7e.dbs/JOURNAL.INFO'
  Size: 8228      Blocks: 32      IO Block: 4096  regular file
Device: fd09h/64777d Inode: 7867635  Links: 1
Access: (0600/-rw-----)  Uid: ( 918/fltkoper)  Gid: ( 901/      sm)
Access: 2013-03-12 11:45:43.000000000 -0400
Modify: 2013-03-12 11:45:43.000000000 -0400
Change: 2013-03-12 11:45:43.000000000 -0400 CCI RETURN: 0
  Database Shutdown
  Copyright FileTek 2004

**Shutdownerror: Database CCIC574af7e, already shut down.
CCI RETURN: 0

Replay Journal
Begin replay at: Tue Mar 12 11:45:44 2013
STHJOU_REPLAY: Journal checkpointed:
  Checkpointed at journal File: RFS_1361249671.PRI.JOU
  Checkpoint journal creation timestamp : Mon Feb 18 23:54:31 2013
Partial checkpointed replay completed successfully.
Completion at: Tue Mar 12 11:45:44 2013
CCI RETURN: 0

Reset Journaling - no journaling
CCI RETURN: 0

Bring the database Up
  Database StartUp
  Copyright FileTek 2004

startup Message sent to EAM for CCIC574af7e waiting for response from EAM...
STHDB_UP has completed successfully.
CCI RETURN: 0

Restart Remote RFS
```

Figure 2-2: Sample Successful Completion Email

Monitoring Progress

Depending on the size of the database being replicated, StorHouse/RFS PIT setup can take some time to complete. You can monitor setup progress by viewing the status message for the PIT instance on the CCI Main window.

Figure 2-3: Example PIT Status Message

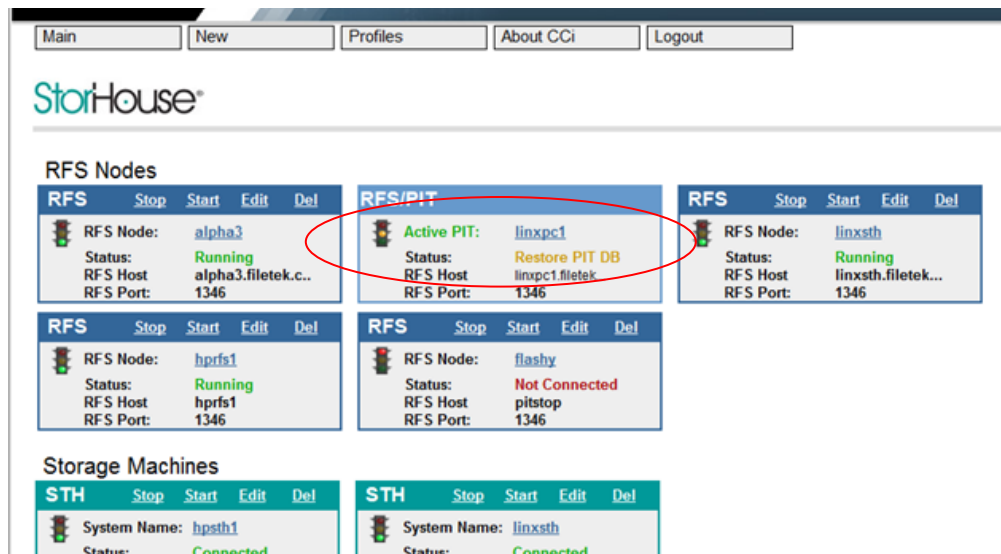


Table 2-3 defines the PIT status messages.

Table 2-3: PIT Status Messages

Message	Description
Restore PIT DB	The process to restore the original StorHouse/RFS database at the specified point in time is running. When a restore is ongoing, StorHouse/CCI displays this status message rather than menu items (Start, Stop, Del, Reset) for the PIT instance. Refer to Figure 2-3.
Replay PIT Journal	A journal replay operation is running against the restored database. The Replay PIT Journal process can take some time to complete, depending on the size of the journal file and where the replay reaches the specified point in time.



DB Restore Failed	The process to restore the original RFS database to the specified point in time failed. If you configured setup to send a completion email, you can check the RFS restore log for more information.
DB Replay Failed	The DB Replay process failed.
DB Up Failed	The process to start up a downed PIT database failed. SGI customer support can check the StorHouse ALOG for more information.
PIT Failure	An undiagnosed failure occurred. Contact SGI customer support for more information.
Start PIT DB	A Start RFS request was initiated on the PIT system, and the StorHouse/RFS software is in the process of coming up.
Running	StorHouse/RFS is running on the PIT system. This is a normal informational message.
Stopped	The StorHouse/RFS software was stopped on the PIT system. This is a normal informational message.

Enabling End-Users to Browse and Access Files Presented by the Point-in-Time View

Once you configure and activate a PIT system, end-users can access it using the same file system interface (NFS or CIFS) they use with standard StorHouse/RFS instances.

- With StorHouse/RFS for Windows, the system presents a drive that can be shared on the network and mapped to/accessed by users with appropriate Windows permissions.
- With StorHouse/RFS for Linux, the system presents an NFS mount point that can be mounted and accessed from any remote NFS client. Just like the Windows share, users require appropriate security permissions to access and view files/directories presented by the point-in-time view.

Resetting an Active StorHouse/RFS PIT System

Only the StorHouse/CCi node that set up the PIT system can reset it. Resetting a StorHouse/RFS PIT system entails closing the currently active point-in-time view and returning the RFS/PIT instance to its pre-setup inactive state, thereby making it available to host a different point-in-time view. Reset nullifies the PIT setup parameters and removes any content that setup created (in other words, the replicated point-in-time database and any changes made to the StorHouse/RFS configuration file on the StorHouse/RFS PIT system).

For example, assume that a StorHouse/RFS PIT system called `linxpc1` is running, and your users no longer need to access it. You can use the following procedure to reset the system, remove the point-in-time view, and make the PIT system available to host another point-in-time requirement.

▼ To reset the RFS/PIT Node `linxpc1`

1. On the StorHouse/CCi **Main** page, click **Reset** for the active StorHouse/RFS PIT system `linxpc1`.

Main | New | Profiles | About CCI | Logout

StorHouse®

RFS Nodes

RFS	Stop	Start	Edit	Del
RFS Node: alpha3 Status: Running RFS Host: alpha3.filetek.c... RFS Port: 1346				
RFS Node: linxsth Status: Running RFS Host: linxsth.filetek... RFS Port: 1346				
RFS Node: hprfs1 Status: Running RFS Host: hprfs1 RFS Port: 1346				
RFS/PIT	Stop	Start	Reset	Del
Active PIT: linxpc1 Status: Running RFS Host: linxpc1.filetek... RFS Port: 1346				
RFS Node: flashy Status: Not Connected RFS Host: pitstop RFS Port: 1346				

Storage Machines

STH	Stop	Start	Edit	Del
System Name: hpsth1 Status: Connected STH Host: hpsth1 STH/RM Ports: 1200/1990 STH/RM Ver: 5.6/3.4				
System Name: linxsth Status: Connected STH Host: linxsth.filetek... STH/RM Ports: 1200/1990 STH/RM Ver: 5.6/3.4				

- On the **Point in Time Reset** window, click **Continue** to reset the PIT node to inactive. Alternatively, you can click **Cancel** to cancel the reset operation.

Reset Point In Time

Original RFS Instance: alpha3 Collector to Recreate: ROOT

Point In Time: Day: 11 Month: MAR Year: 2013 Hour: 11 Min: 59 Sec: 21

Delete Database: CCI8d545a48 on: alpha3

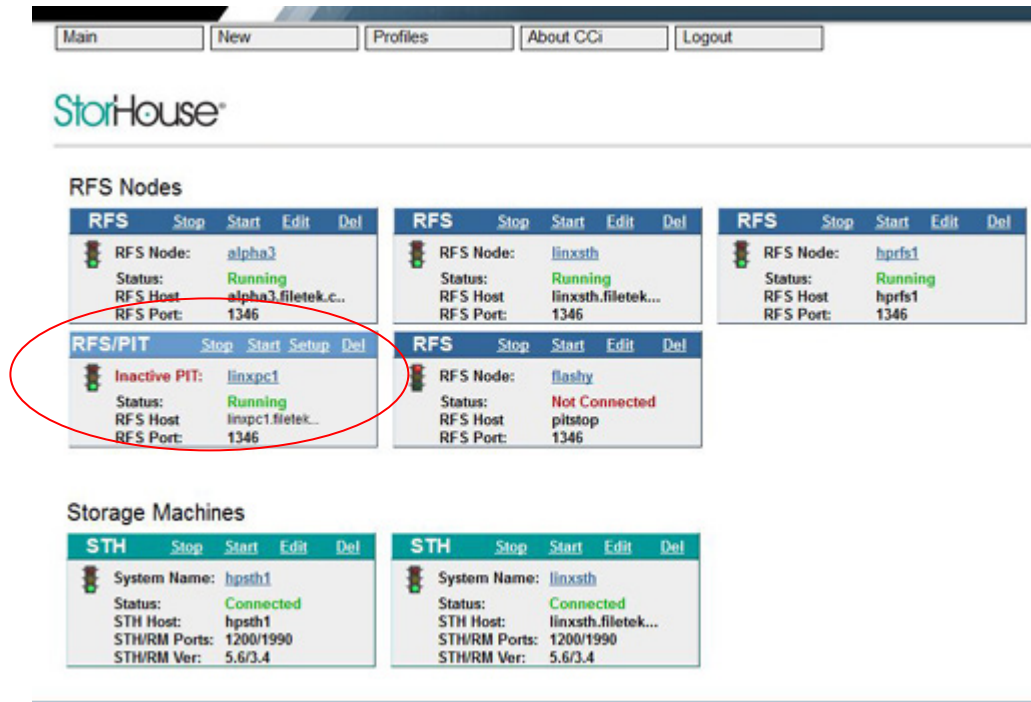
Continue Cancel

- On the **Reset Point in Time Reset Completed Successfully** window, click **Finish**.

Reset Point In Time Reset Completed Successfully

Finish

StorHouse/CCI returns you to the Main window.



Now StorHouse/CCI displays the StorHouse/RFS PIT system, linxpc1, as an Inactive PIT.

You can configure an existing/inactive PIT instance to host a new point-in-time view by clicking Setup for the existing/inactive PIT node and then reconfiguring it for a specific date/time/collector/RFS instance.

Additional Information

Note the following about StorHouse/RFS PIT systems:

- At minimum, the StorHouse/SM software must be at delivery level #99 (Linux) to implement multi-view point-in-time recovery. To confirm you are running at this delivery level, look at `/filetek/v5r6/o/osta/rc`, which should have a date of July 29, 2012, (or later).
- RFSAS is a controller service that starts/stops StorHouse/RFS and provides a StorHouse/RFS interface to StorHouse/CCi. It runs on all StorHouse/RFS platforms. This service must always be active on the PIT machine.
 - To confirm that the RFSAS service is active on a Linux StorHouse/RFS server, go to **System → Administration → Server Settings → Services → rfsas service on your PIT platform**.
 - To confirm that the RFSAS service is active on a Windows StorHouse/RFS server, go to **Control Panel → Services → StorHouse/RFS Admin service**
- The PIT machine is configured for a single collector, not for an entire StorHouse/RFS instance.
- The PIT instance of StorHouse/RFS presents a read-only view of the target portion of the system. As such, PIT servers have no real collectors, collections, or locally used storage.