



Network Station Manager V2R1

ICA Client Support



Network Station Education
IBM NCD
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Objectives/Summary



- **What is ICA?**
- **Where is ICA used?**
- **What are the ICA Features?**
- **How do I start an ICA session?**
- **How to configure ICA?**
 - Using the ICA Remote Application Manager
 - Using the Windows-based application definition

Notes

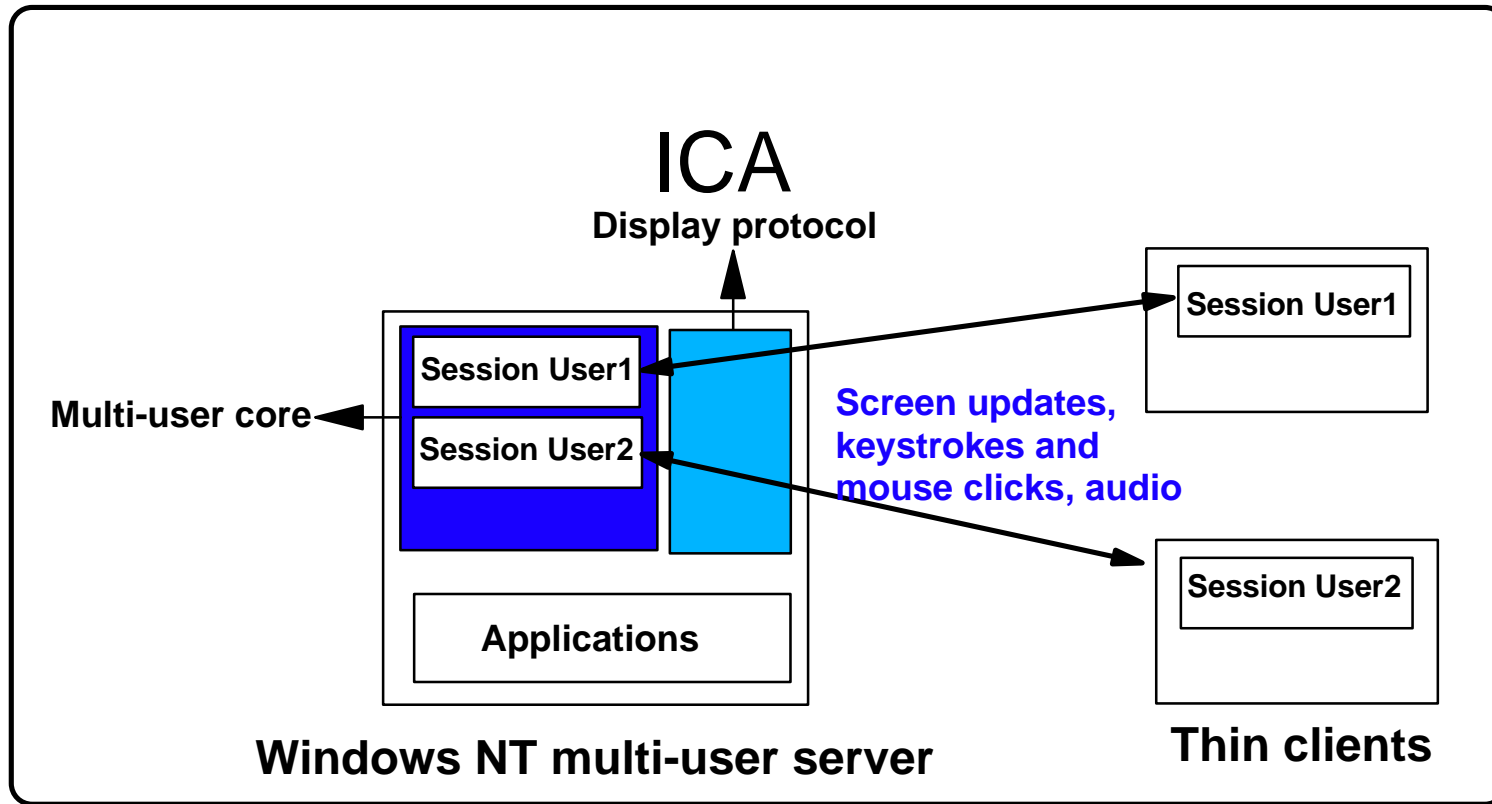


This presentation discusses the ICA Client Support of the IBM Network Station.

The objective is to present a brief overview of what the ICA protocol consists of, where it is used, and what its features are.

Also to understand the two ways of configuring ICA sessions and how to start them.

What is ICA?



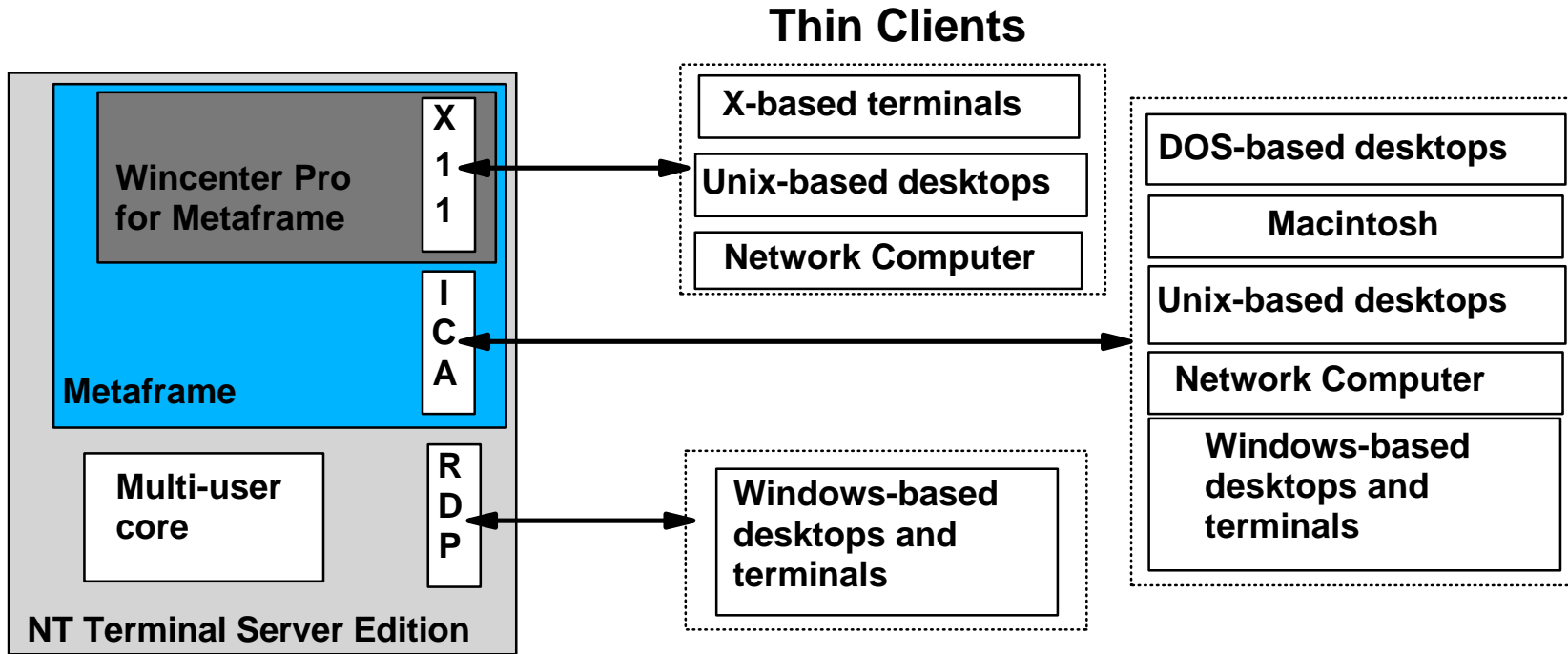
Notes



The Independent Computing Architecture (ICA) protocol is a general-purpose presentation services protocol developed by Citrix Systems. It allows an application's user interface to execute with minimal resource consumption on a client machine, while application logic executes on a Winframe or MetaFrame multi-user Microsoft Windows NT application server.

The ICA protocol has been specially designed for transmitting Windows graphical display data, and keyboard and mouse input over a network connection and it offers a high degree of data compression to allow the client to communicate with the server even over bandwidth-limited WAN links.

Where is ICA used?



Windows NT Server 4.0 based

Notes



There are three types of protocols that can be used to connect into a Windows Terminal Server Edition system:

- The RDP protocol is the base protocol supported natively by the WTSE system and it is typically used by Windows terminals
- The ICA protocol, supplied as part of MetaFrame, can be used by a variety of clients including any Windows-based workstations and the Network Station
- The X11 protocol used by X terminals (including the Network Station)

Up to now, the ICA protocol has been the most popular because it supports more functions than the other protocols.

The IBM Network Station supports an ICA client that allows it to connect into any type of MetaFrame server.

V1R3 ICA



- **V1R3 ICA Client**

- Connects to all multi-user versions of Windows NT
- Many ICA features

- **QuickOn for running Windows**

- Model 300 flash based solution
- Flash card ordered through Network Station partners
- Simple configuration on the client
- Power it on and it connects directly to the Windows NT server
- Requires no boot server or special configuration

- **Citrix Device Services**

- Provides basic ICA capabilities - at no additional cost
- IBM provided media (CD, internal Web download)
- Installs on Windows NT Terminal Server Edition

Notes



In V1R3, the Network Station did support the ICA client, initially with a restricted number of features, but more features were added with different levels of the service packs that were made available over time.

There was also a product called Quickon for Windows, which was a flash card specifically designed to work on the Series 300 which contained all that was necessary to boot the Network Station and connect it to a WinFrame or MetaFrame server.

Cirtix Devices Services was also made available as a version of MetaFrame that provided basic ICA connectivity without some of the more advanced features such as load balancing and shadowing.

V2R1 ICA Features



- **Remote Application Manager**

- Similar in function to the 'ICA Chooser'
- System administrator configures connection entries
- Users may (optionally) configure connection entries
- Presents a list of servers to choose from

- **Audio**

- Now provide the Windows audio experience (wav, midi, etc.)
- One way audio mapping with audio compression
- Not synchronized with video for now

- **Secure ICA**

- Supports Citrix's Secure ICA option pack
- End-to-end RSA RC5 encryption for the ICA data Stream (40 bit and 128 bit key sizes)
- Provides secure medium for running Windows applications

- **Protocol Compression**

- Provides better response times over WAN connections

- **NSM configuration enhanced**

- Easier ICA configuration for System Administrators - client configuration integrated into NSM



In V2R1, the ICA client has been enhanced with many additional features.

- A Remote Application Manager, which is similar in function to the 'ICA Chooser' that presents a list of servers to choose from, is now available on the desktop by default. The system administrator can configure connection entries and users may also configure connection entries, if that was enabled.
- The ICA client now provide the Windows audio experience (wav, midi, etc.) and one way audio mapping with audio compression
- Secure ICA is available to provide a secure medium for running Windows applications . It supports Citrix's Secure ICA option pack and end-to-end RSA RC5 encryption for the ICA data Stream
- Protocol Compression provides better response times over WAN connections
- The NSM configuration has been enhanced to make it easier for System Administrators to configure client connections.

Other ICA Features



- **Virtual Print**

- Lets a Windows application communicate with the printer on the Network Station via the ICA session
- Provides an additional way of using the local printer (instead of using the normal Network Station's LPR/LPD support)

- **Virtual Communication**

- Lets a Windows application communicate with the serial port on the Network Station via the ICA session
- Limited to devices that IBM and NCI have tested

- **Load Balancing**

- Ability to connect to the least utilized server in an ICA server farm

- **Cut and paste support**

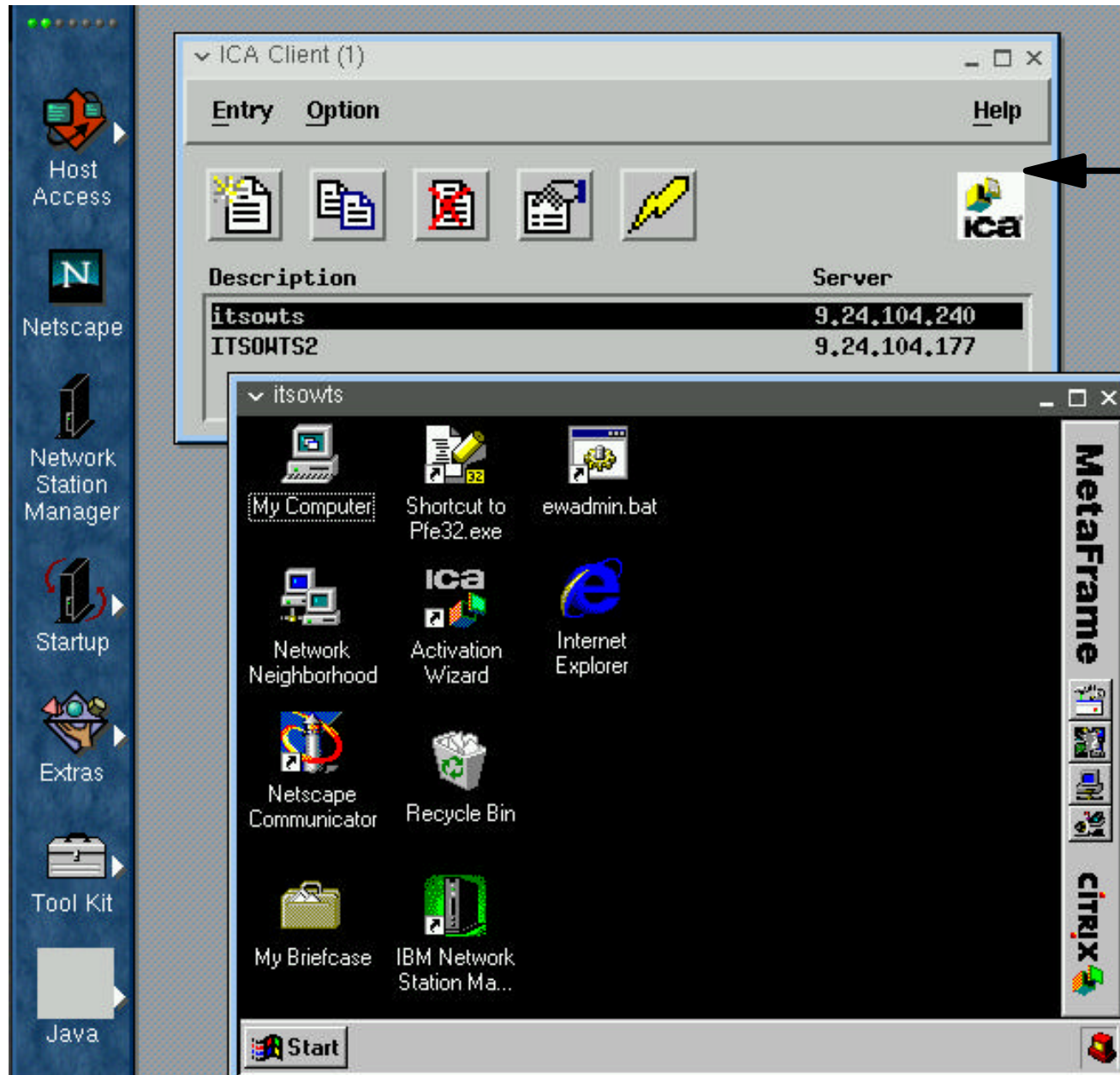
- Available between the ICA Window and native non-Java applications (3270, 5250, browser, X sessions)



These are other features of the ICA client that were available in the previous release

- Virtual Print lets a Windows application communicate with the printer on the Network Station via the ICA session and therefore provides an additional way of using the local printer (instead of using the normal Network Station's LPR/LPD support)
- Virtual Communication lets a Windows application communicate with the serial port on the Network Station via the ICA session
- Load Balancing is the ability to connect to the least utilized server in an ICA server farm
- Cut and paste support is available between the ICA Window and native non-Java applications (3270, 5250, browser, X sessions)

Starting the Remote Application Manager



Remote
Application
Manager
Window

Windows
Desktop
Window



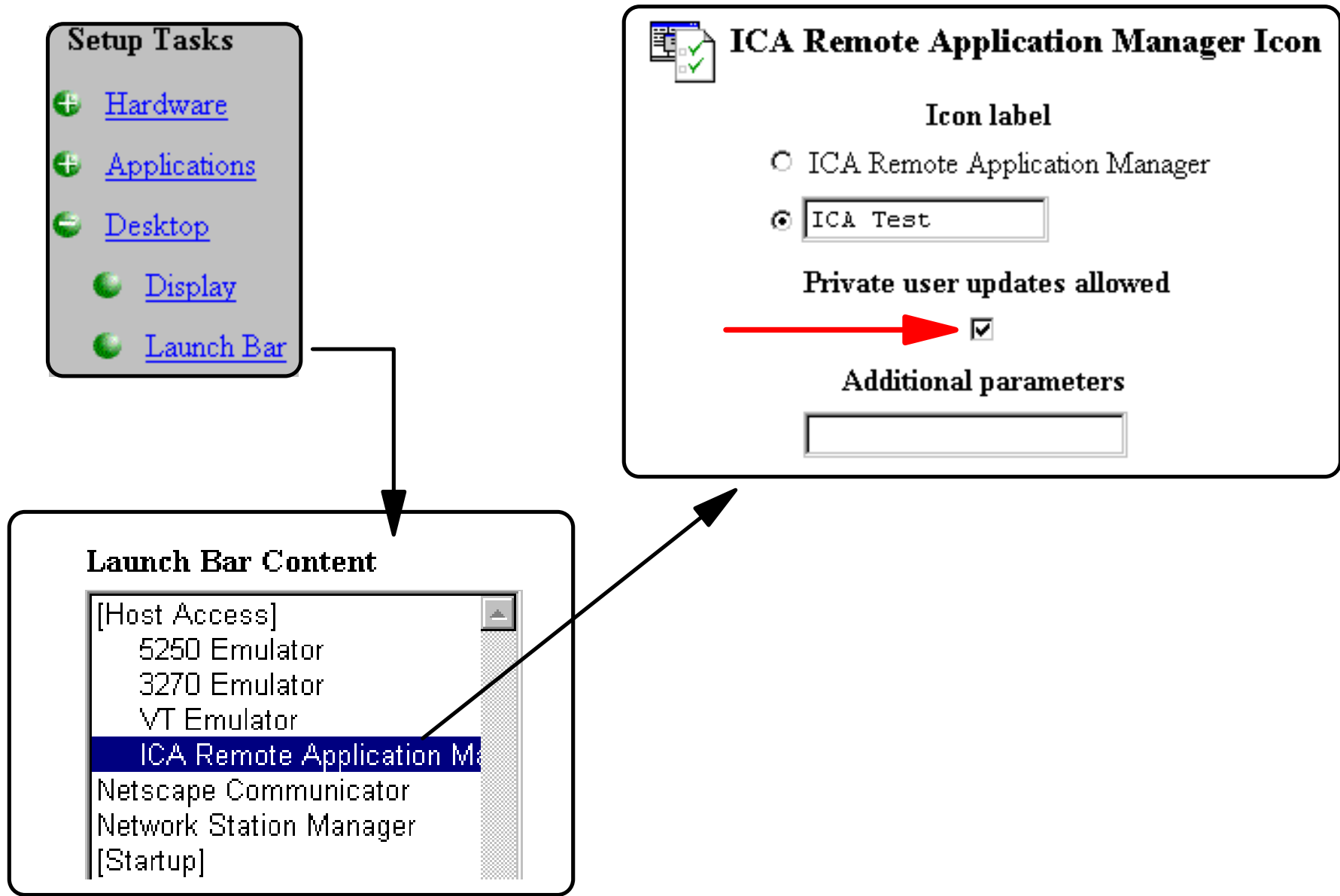
There are two ways to configure ICA sessions:

- Make entries in the Remote Application Manager so that the user, from the desktop, starts the application manager and selects a particular session from the list that is presented to him. The ICA Remote Application Manager is started from an icon inside the Host Access folder (this is the default location but it can be changed).
 - Note that entries can be configured in this list either by the administrator, or the user may be allowed (if so configured) to make his own entries in the list
- Or the administrator can create individual sessions and place them on the launchbar as individual icons or as icons within a folder. In other words, these are individual sessions that are not part of the list in the Remote Application Manager (although they can be also).

When the user selects an entry on the Remote Applications Manager or an ICA session icon on the launchbar, the session is established with a MetaFrame server and the Windows desktop is displayed on the Network Station monitor, as shown on this chart.

The Windows desktop can be windowed or it can be full screen, dependent on how the specific session was configured.

Configuring ICA Remote Application Manager on the LaunchBar



Notes



Let us discuss the ICA Remote Application Manager first.

The first task is to make the RAM available on the desktop. This is done by choosing the Desktop/Launchbar Setup task, selecting ICA Remote Application Manager, which is already, by default, present in the launchbar, as the fourth entry in the Host Access folder.

A click on Edit displays the panel in the top right hand corner on this chart.

Notice that the default name is ICA Remote Application Manager but that can be changed. We used ICA test here for example. Notice also the red arrow pointing to the Private user updates allowed checkbox. This indicates that the user is allowed to make his own entries in the application manager, in addition to those that the administrator can define. It does not mean however that the user is allowed to change the entries made by the administrator.

ICA Configuration in NSM



nsedv2r1.itso.ra.ibm.com

ICA Remote Application Manager Settings for richard

- Setup Tasks**
- + [Hardware](#)
 - [Applications](#)
 - [5250](#)
 - [3270](#)
 - [VT Emulator](#)
 - [Netscape Communicator](#)
 - [Applet Viewer](#)
 - [ICA Remote Application Manager](#)

Add

Edit

Remove

ICA Connection Entries

ITSOWTS
ITSOWTS2

* Indicates inherited items

Notes




Once the ICA Remote Application Manager has been configured to appear as an icon on the launchbar or in a folder, the next step is to make entries in the application manager.

This is done by using the ICA Remote Application Manager Task under the Applications category of tasks, as shown in this chart. This brings up the panel illustrated here where two entries have been defined, called ITSOWTS and ITSOWTS2.

A click on Edit shows us the actual panel in which these entries were made by originally using the Add button.

ICA Connection Entry



 **ICA Connection Entry Settings**

Icon label	Windows host	Application			
<input type="text" value="ITSOWTS2"/>	<input type="text" value="9.24.104.177"/>	<input checked="" type="radio"/> Windows desktop <input type="radio"/> Name <input type="text"/>			
Additional parameters	Window colors				
<input type="text"/>	<input type="text" value="Default"/> ▼				
Windows logon					
Logon type	Domain				
<input type="text" value="Automatic"/> ▼	<input type="text" value="ITSOWTS2"/>				
User name	Password				
<input type="text" value="administrator"/>	<input type="text" value="*****"/>				
Window size and location in pixels (optional)					
Full screen	Width	Height	Horizontal offset	Vertical offset	Corner to offset
<input checked="" type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="Upper left"/> ▼

Manual
Automatic
Network Station



Notes



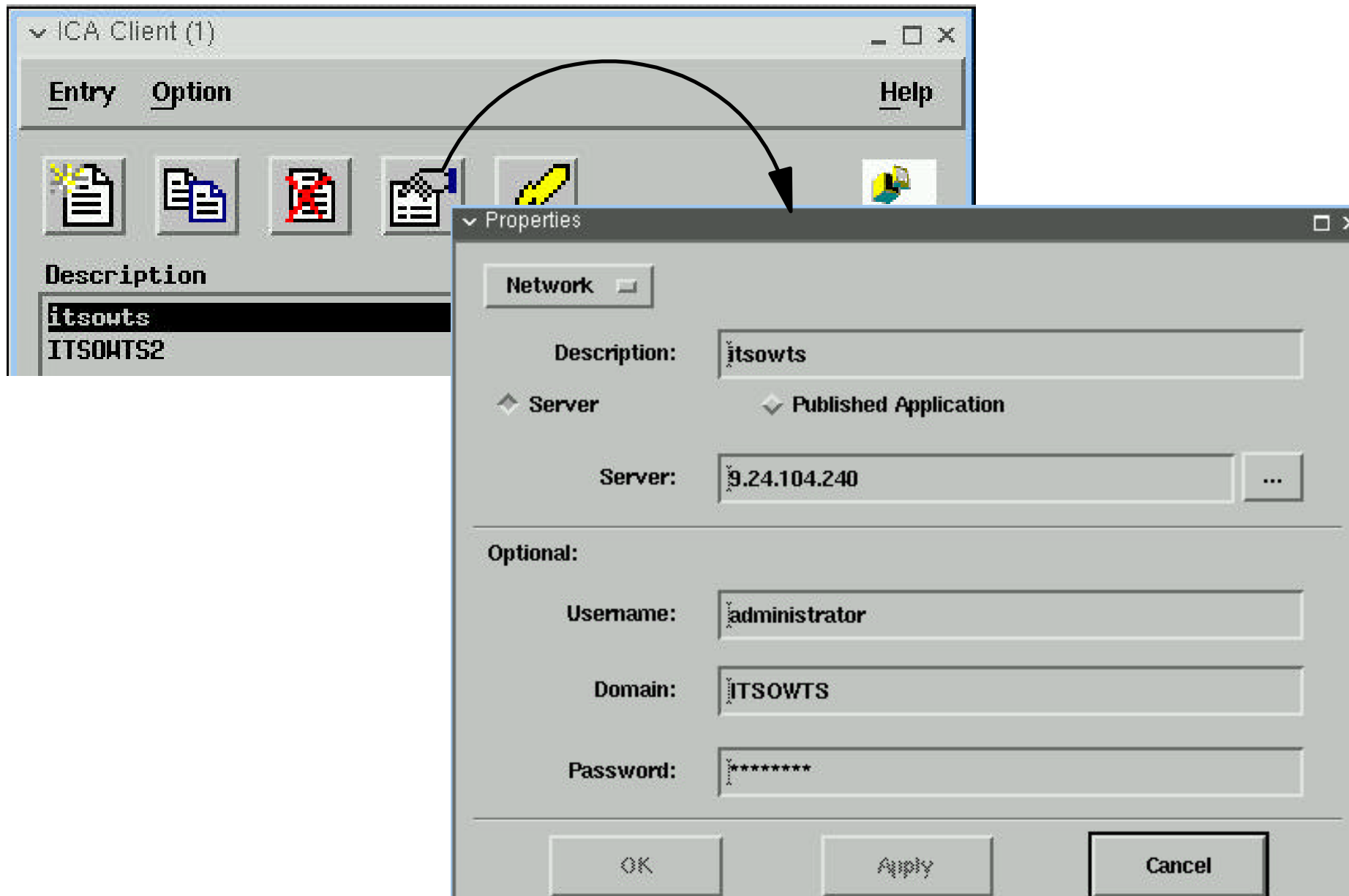
This is the panel into which the actual connection entries are made in order for the entry to appear in the ICA Remote Application Manager.

These are the typical entries for an ICA connection that you have seen before.

Notice in particular that you can specify a Logon type.

- Manual means to wait for the normal Windows logon panel to appear and the user then enters a user name, domain name and password.
- Automatic means to supply these parameters automatically during the connection by using the parameters entered in this panel
- Network Station means to use the same user name and password that was used to log on to the Network Station, thereby avoiding the user to enter his name and password twice.

Displaying a Connection's Properties



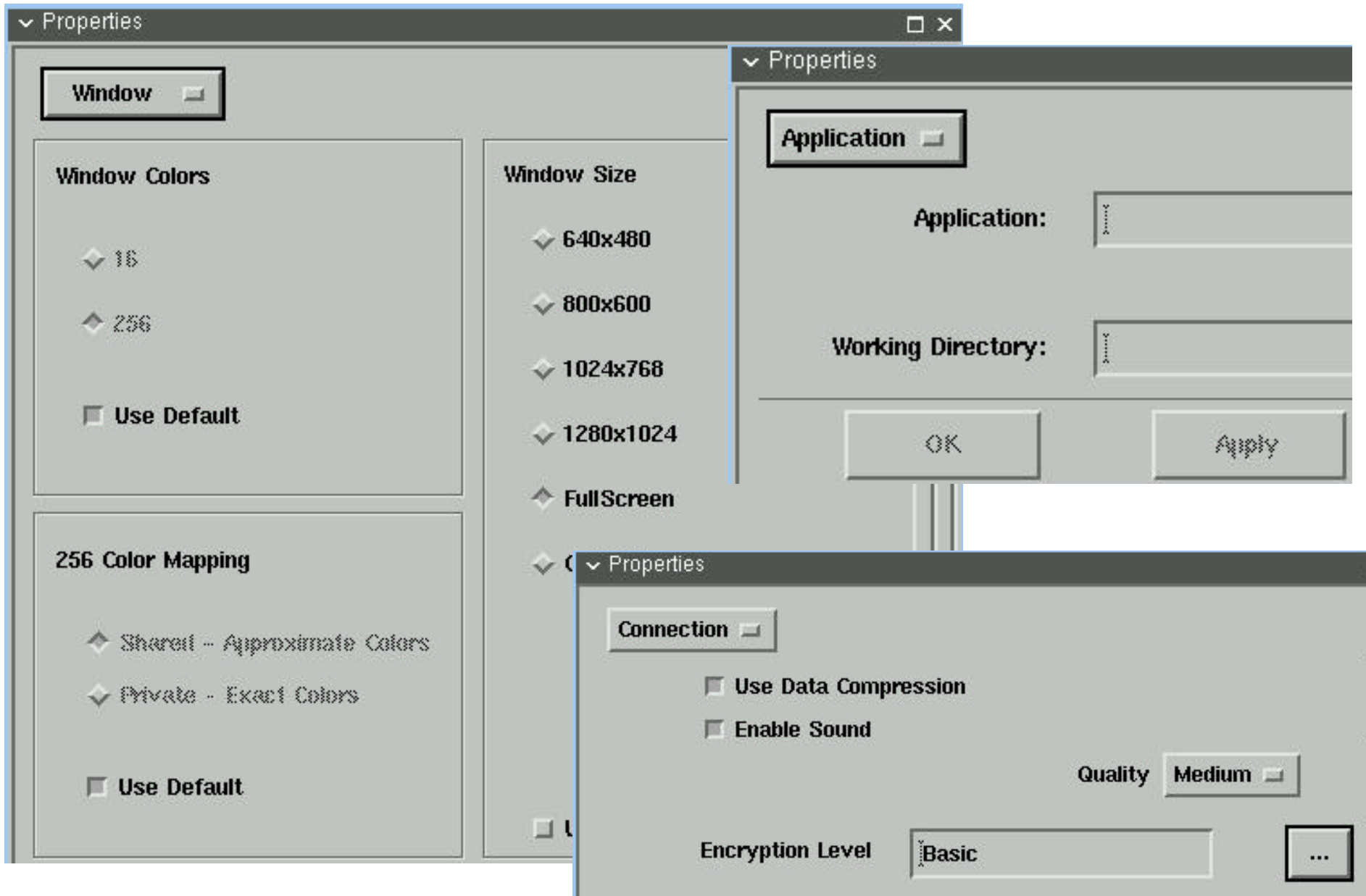
Notes



Once these connections are defined and appear in the ICA Remote Application manager, selecting an entry and clicking on the Properties icon displays the panel shown here, where the properties can be examined.

If one chooses Entry from the pull down menu, and then New, the same panel appears but as an empty panel where new values can be entered. This is possible only if the Allow private user updates checkbox has been checked in the ICA Remote Application manager configuration.

ICA Connections - Other Properties



Notes



These three panels illustrates the other properties that can be specified for each ICA connection in the Remote Application manager, such as window sizes and colors etc.

Launch Bar Settings



Setup Tasks

- + [Hardware](#)
- + [Applications](#)
- [Desktop](#)
- [Display](#)
- [Launch Bar](#)

Launch Bar Settings for bechard

Folders

- [Host Access]
- [Java]
- [Tool Kit]
- [Extras]
- [Custom...]

Applications

- 5250 Emulator
- 3270 Emulator
- VT Emulator
- Windows-based Appl
- ICA Remote Applicat
- Netscape Communic
- Java Application
- Java Applet
- File Manager
- Text Editor

Launch Bar Content

- [Host Access] *
- 5250 Emulator *
- 3270 Emulator *
- VT Emulator *
- ICA Remote Applicat*
- Netscape *
- Network Station Manag
- [Startup] *
- [Extras] *
- Audio Player *
- Calculator *
- Calendar *
- File Manager *
- Paint *
- Real Player *
- Text Editor *
- Video Player *
- [Tool Kit] *
- Advanced Diagnosti
- Calibration Tools *
- Print Monitor *
- [My Folder]
- My ITSOWTS
- ICA Test

* Indicates inherited items
[] Indicates a folder

Buttons: Add, Remove, Move Up, Move Down, Edit...

Notes




We said earlier that there were two methods of defining ICA connections.

ICA connections can also be defined directly as icons on the launchbar or in folders on the launchbar.

This is done by using the desktop/launchbar set up task, selecting Windows-based application, and clicking on Add to include this item on the launchbar, and bring up the panel in the next chart.

Windows-Based Application Panel



 **Windows-based Application Icon**

Icon label

Windows-based Application

Windows host **Application**

Windows desktop

Name

Connection type **Additional parameters**

Window colors

Windows logon

Logon type **Domain**

User name **Password**

**ICA
X11**



Notes



Notice that this panel is nearly identical to the one we showed earlier when creating entries in the ICA Remote Application Manager.

The only difference is that we have a choice that was not on the other panel, which is a connection type choice where we can choose either ICA or X11.

All other fields are the same.

Where to Go for More Information



- **Main Web Site**
 - www.ibm.com/nc
- **Current Network Station Redbook**
 - **SG24-5844 Network Station Manager V2R1 Guide**
- **Previous Network Station Redbooks**
 - SG24-5187 AS/400 - Techniques for Deployment in a WAN
 - SG24-5221 Windows NT - NSM Release 3
 - SG24-5212 Printing
 - SG24-2127 Windows NT/WinCenter
 - SG24-4954 S/390, SG24-2016 RS/6000, SG24-2153 AS/400
- **Product Publications**
 - SC41-0684 Installing NSM for AS/400
 - SC41-0685 Installing NSM for RS/6000
 - SC41-0688 Installing NSM for Windows NT
 - SC41-0690 Using NSM
 - IBM Network Station Advanced Information (On the Web Site)
- **Citrix Web site (<http://www.citrix.com>)**
- **NCD Web Site (<http://www.ncd.com>)**

Notes



Amongst all these publications, the SG24-5844 in particular has a complete chapter on ICA.