Network Station Manager Version 2

Using the Network Station Manager

Network Station Education
IBM Network Computer Division
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Objectives

- **Understand**
  - What is Network Station Manager
  - How to access it
  - How to use it
- **What is new in the NSM V2R1 GUI**
- **What NSM configuration tasks are available**
- **What are the four configuration levels**
- **Examples of typical/common configuration tasks**
- **Some configuration hints and tips**
- **Where to find Help**

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Notes

The subject of this presentation is using the Network Station Manager application.

The objective of this topic is to understand what the Network Station Manager application is, how to access it, how to use it and to take a look at some of the changes since the last release.

Actually, the NSM application itself is one of the components that has not changed much since the last release because its graphical user interface has remained fairly constant despite many significant changes to the underlying configuration files.

The topics we address are:

- What is NSM
- What's new in V2R1
- How to access NSM
- How to work with the levels
- Examples of typical configuration tasks

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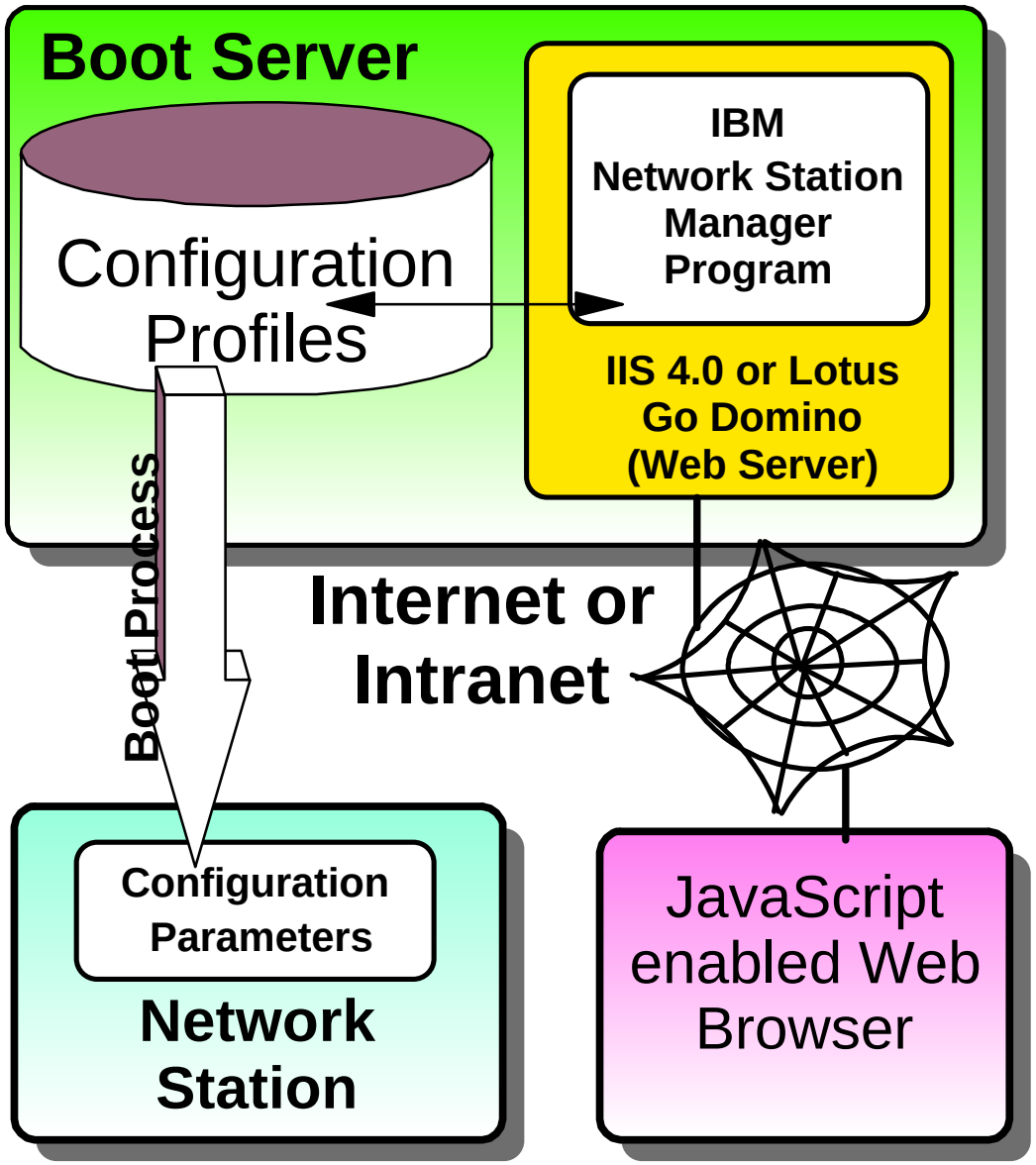
What is Network Station Manager?



- A Web server application - Requires a JavaScript enabled Browser
- Access from anywhere on the Web
- GUI front end to configuration files for the Network Stations
- Requires IIS 4.0 or Lotus Go Domino 4.6.2
- Must reside on configuration server and/or authentication server

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Notes

Network Station Manager is a Web Server application that can be accessed from a browser anywhere on the web as long as the browser is JavaScript enabled.

The application is actually a GUI front end to the configuration files (which are now called profiles) for the Network Stations. It provides the administrator (and users) with an easy to use graphical interface for configuring all the parameters necessary for the setup of Network Stations.

The profiles, or configuration files, reside on the boot server, or on the configuration or authentication servers (we will see later what these different servers are when we discuss the separation of servers) and they are downloaded to the actual Network Station during the boot process.

However, they are never updated on the Network Station themselves; the updates always take place on the server.

The server must be running either the Lotus Domino Go Webserver (4.6.2) or Microsoft's IIS 4.0 web server.

Note that with NSM V2R1, there is also now a command line facility available to update the configuration files. This command file utility has the ability to use batch files that can be used when making a lot of changes to large configuration files.

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What is new in NSM V2R1?

- **NSM V2R1 can coexists with NSM V1R3 on the same server**
- **Migrates configuration information from V1R3**
- **Main menu similar with modified setup tasks**
- **Configuration support for the desktop and launchbar**
- **Configuration support for remote reboot and forced logoff**
- **Provides command line interface for interactive or batch update of configuration files**
- **Reduced number of configuration files (Maximum of 8)**
  - Only one format (XML-based)
- **Provides a command line interface for interactive and/or batch updates**
- **OMRON Support of V1R3 has been removed**

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Notes

What's new in Network Station Manager Version 2?

- First, V2R1 can coexist with V1R3 on the same server because the root of each directory structure is different
- Configuration information from V1R3 config files can be migrated to V2R1 profiles
- The NSM main menu is similar but the list and organization of the setup tasks have been slightly modified
- V2R1 now has configuration support for the desktop and launchbar, and this is a lot more flexible than the V1R3 menu bar
- Support for remote reboot and forced logoff has been added to NSM
- A command line interface is now provided to do either interactive or batch update of configuration files
- The number of configuration files has been significantly reduced. There are now only 8 configuration profiles, including the override files and there is a single format (XML - Extended markup language).
- Finally, the OMRON support from V1R3 has been removed

These are only the major changes. Many of the actual NSM panels have also had some changes, but most of the fields are the same and their meaning has not changed.

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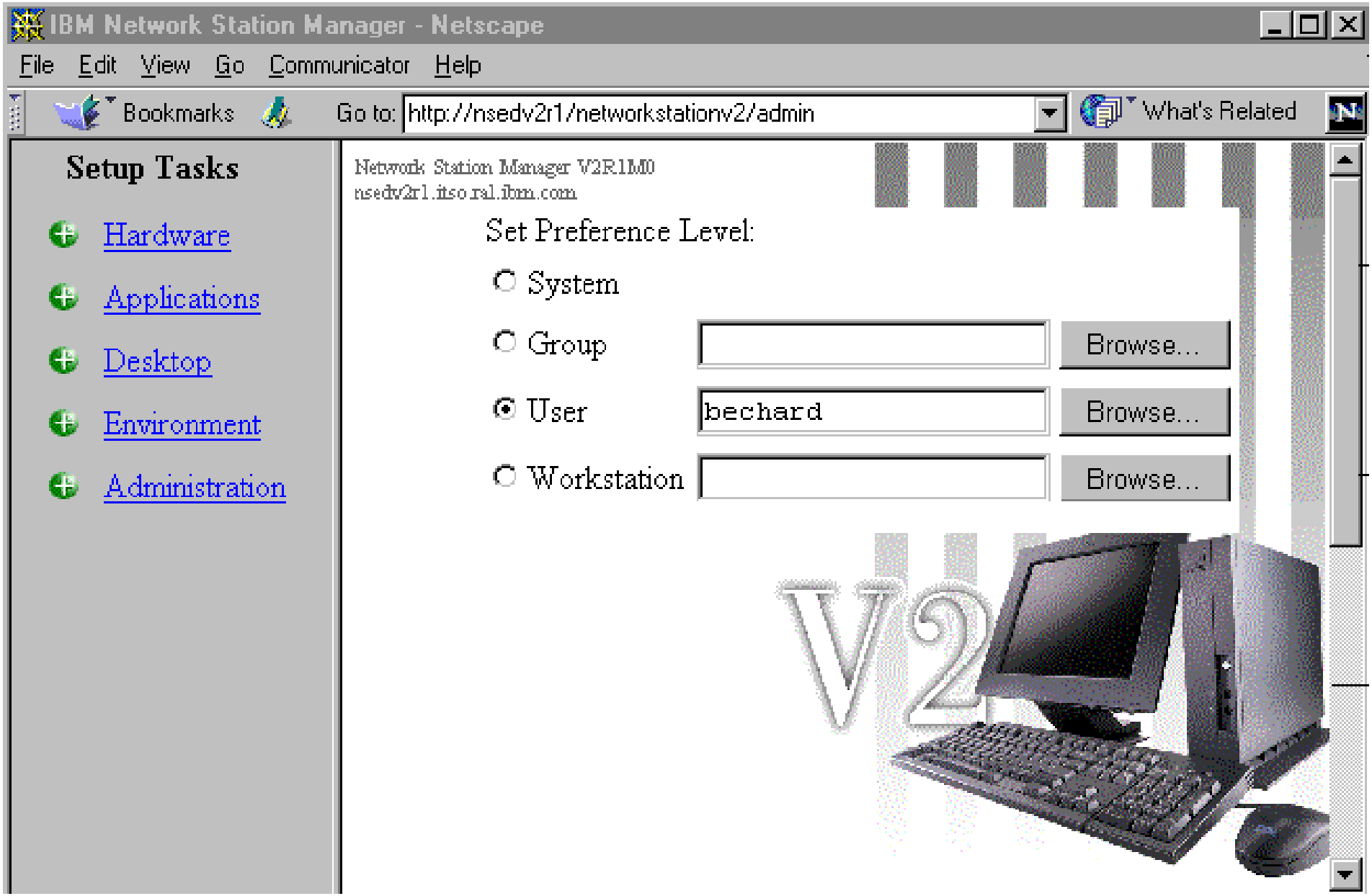
HTTP://server/NetworkStationV2/admin



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Notes

This chart illustrates the main NSM panel as first presented to the user.

The URL to access the Network Station Manager in V2R1 is HTTP://server/NetworkStationV2/admin.

The V2 appended to NetworkStation allows to distinguish between a V1R3 and a V2R1 NSM since both can now reside on the same server.

The general graphical interface is similar to the previous release but there are changes to the list of the setup menu tasks and, as can be seen on this panel, the user first chooses a level at which to operate and then selects a particular task. This is a more efficient way of proceeding because it avoids having to reselect a level each time a specific task is selected, as was the case in V1R3.

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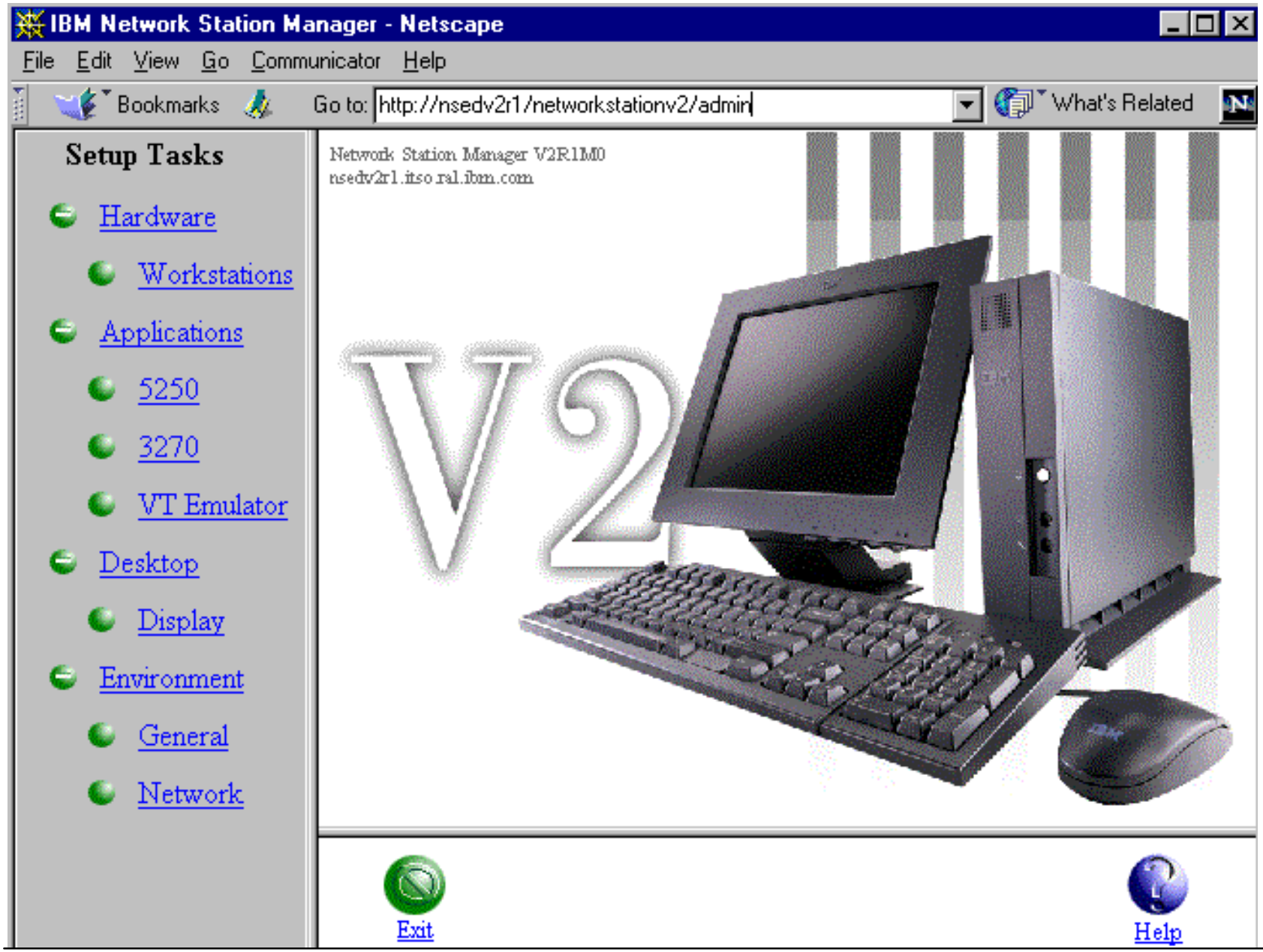
NSMUser Restricted Setup Tasks



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Notes

As in the previous release, a user (as opposed to an administrator) has a minimal number of configuration tasks that he is allowed to perform and they have to do mainly with preferences that only affect himself or herself.

This is the panel displayed when logging on as a user and notice that there is no choice for a particular level since the only level allowed is the user level.

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Configuration Levels

- **System Wide**
  - Applies to all stations, groups and users
  - Overrides the Shipped Settings
- **Group**
  - Applies to a specific group of users
  - Overrides the System Wide settings
  - The group must be defined on the server's account database, and the user must be a member of the server's group and defined in NSM.
- **User**
  - Applies to a specific user
  - Overrides the Group settings
- **Workstation**
  - Applies only to specific stations
  - can be identified by IP Host Name, MAC address, IP address in hex format or IP address in decimal notation
  - Overrides the System Wide Defaults

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Notes

Here is a brief look at the different levels.

At the top of the hierarchy are the shipped settings. These parameters are contained in a profile called shipped.nsm, that is shipped with the product and that is not altered by either NSM or the user. These settings apply to all stations and all users.

Then the system level settings, which also apply to all stations and all users, but these settings are configurable in NSM and are contained in a profile called allusers.nsm.

Then come the group level settings, which override the system level settings for a group of users. The group must be defined in the server's account database and the user must be part of the group on the server as well as be defined in NSM as part of that group. By default, all users are initially part of the NSMUser group. Note that the user can be part of more than one group on the server but it can inherit the properties of only one group in NSM. The settings are contained in a profile called group_name.nsm.

Then the user level settings override the group level settings and are contained in a profile called user_name.nsm

Finally there are workstation level settings, that are hardware related types of settings, that can override all previous settings for a particular station. These are contained in a profile called allncs.nsm.

Note that certain settings are additive, in the sense that the user inherits the sum of all settings of all levels, whereas some settings are mutually exclusive, meaning that the last setting specified is the one that applies.

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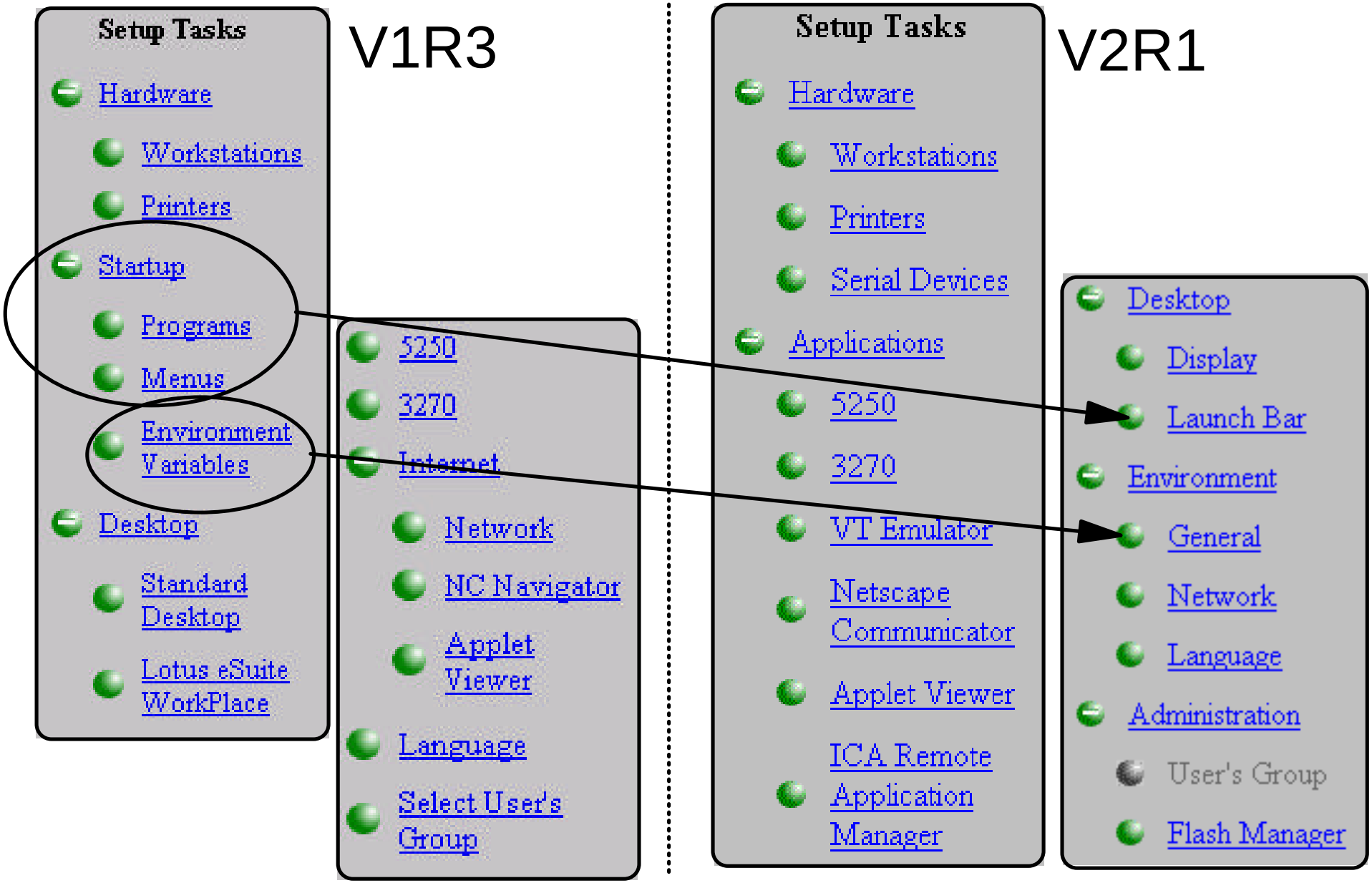
NSM Setup Tasks (Administrator)



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Notes

This chart illustrates the difference in the list of setup tasks available to an administrator in V1R3 and in V2R1.

Some of the main differences are:

- The startup programs and menus are now configured under the launchbar task and the environment variables are under Environment/General.
- The applications have been grouped under an application head and the VT Emulator and ICA Remote Application Manager are new.
- The Lotus eSuite WorkPlace desktop is not applicable any more. It appeared as a V1R3 task only if it was installed.

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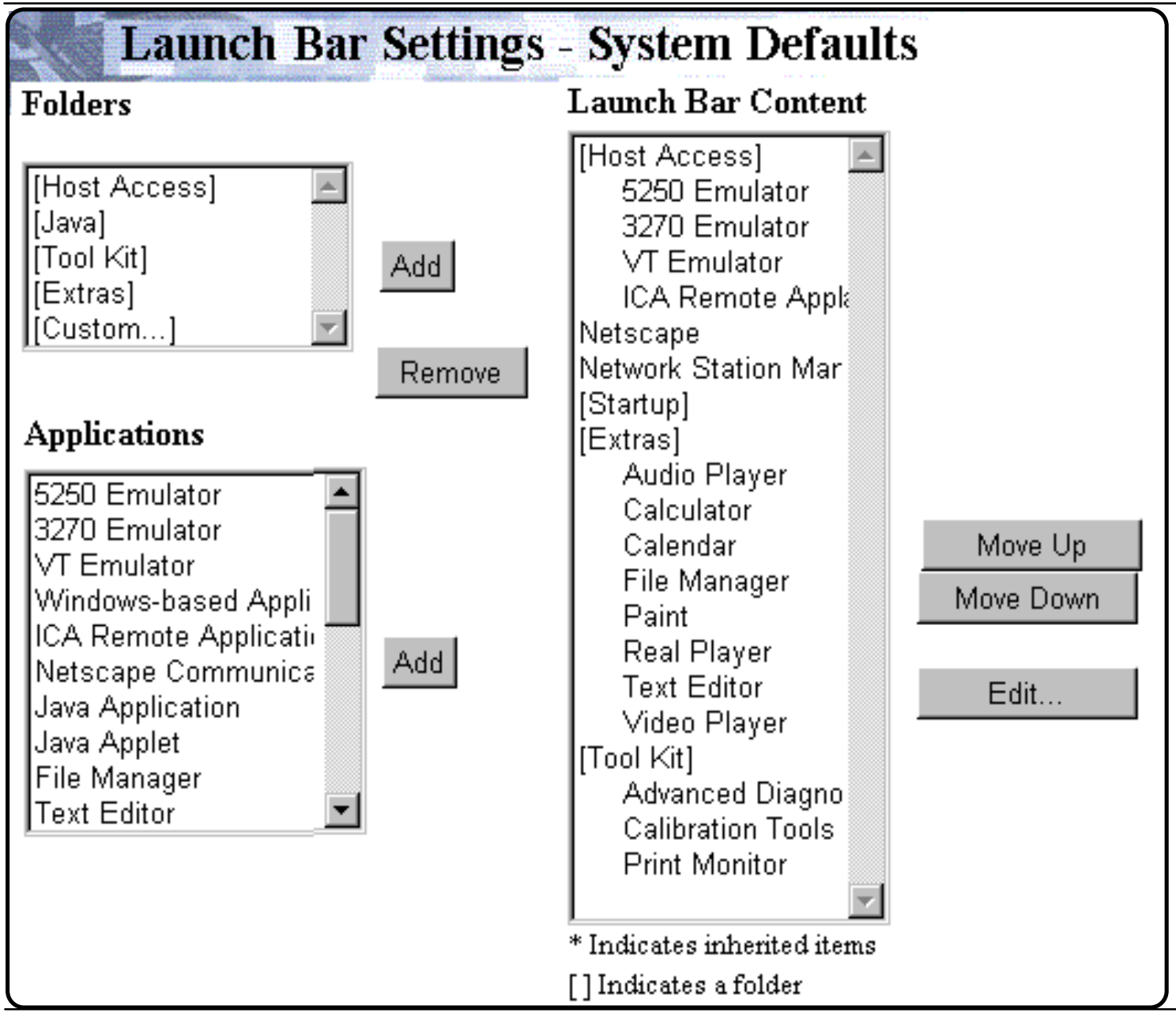
Working with the Launchbar



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Notes

This chart illustrates the launchbar configuration panel (on the left) and the resulting launchbar icons on the right.

This task is only available to the administrator. Folders on the top left can be added to the Launch bar content on the right by using the add button. Similarly, applications on the bottom left can be added to folders by the add button.

Under the launchbar content, folders and applications can be moved by using the Move Up and Move Down buttons.

Folders are indicated by brackets and an asterisk indicates a folder or application that has been inherited from a higher level. Items inherited from a higher levels cannot be removed from the launchbar at a lower level. There are no asterisks in this illustration because this is the highest level (system level).

Each application that is configurable automatically brings up an additional panel when added to the launchbar, or it can be modified using the Edit button.

In the next few charts, we take a look at a few typical applications that need to be configured.

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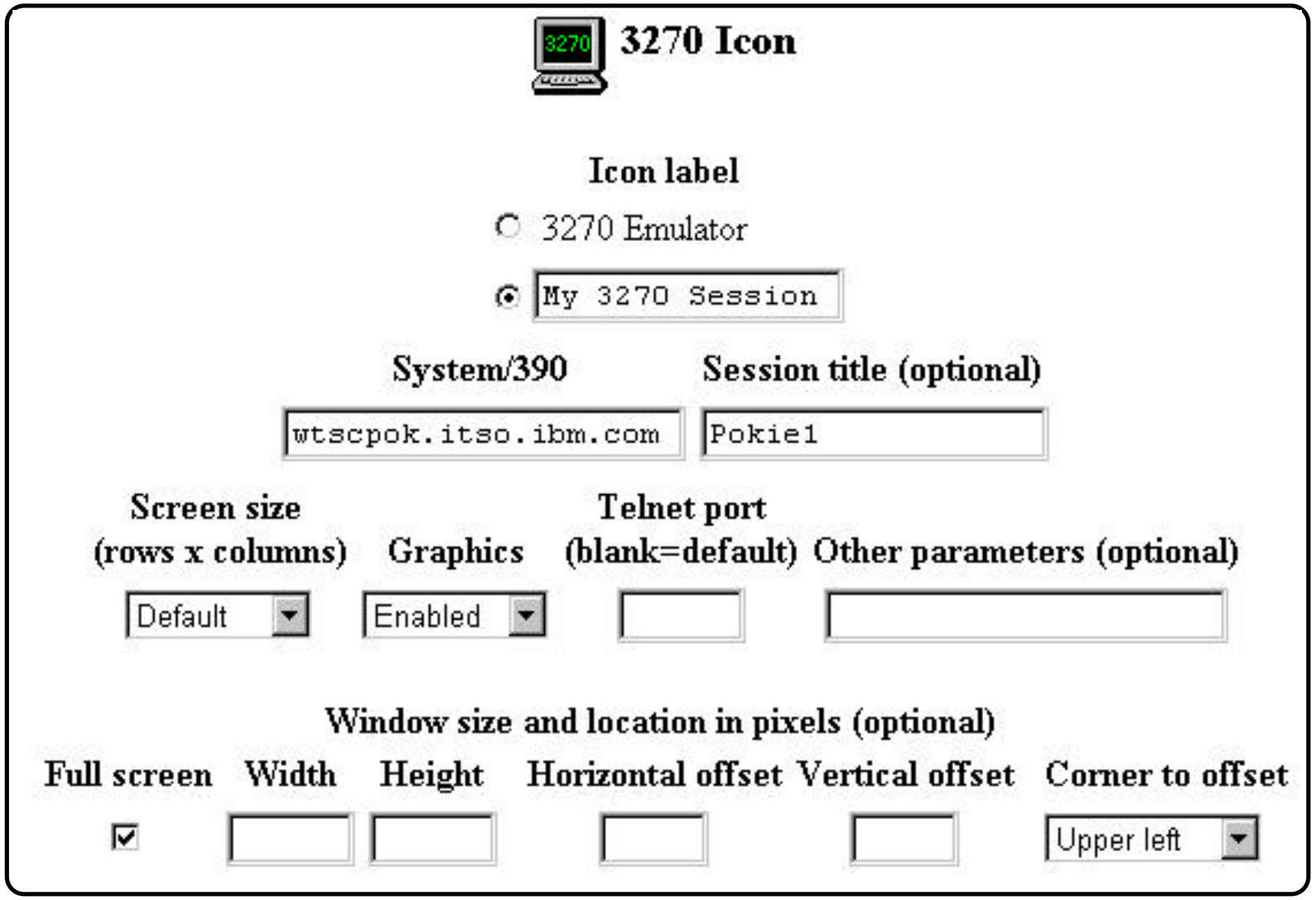
Adding a 3270 Session



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When you select an application to be added to the launchbar, or when you use the Edit button on the already existing entries in thelaucnhbar, you are presented with a panel to enter the detailed configuration information.

For a 3270 emulator session for example, which is shown here, the information is very similar to what was configured under the autostart or menu bar tasks of V1R3.

All the fields here are the same and in fact they are laid in a similar fashion as in the previous version.

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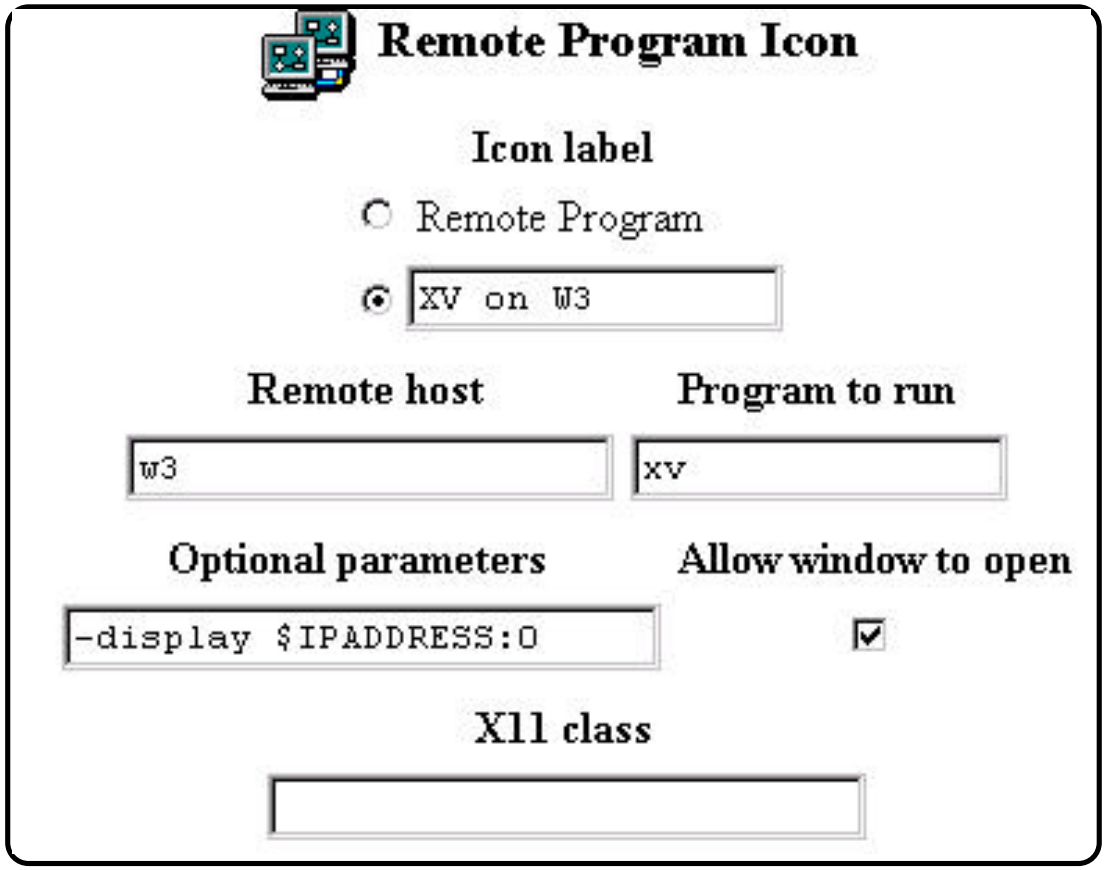
Remote Program



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And here is an example of adding a remote program entry, which is used for executing an application on a remote host.

In this example, we are executing the xv application on a remote AIX host called W3 and displaying the results back on our Network Station's display monitor. The $IPADDRESS is a variable that contains the IP address of our station.

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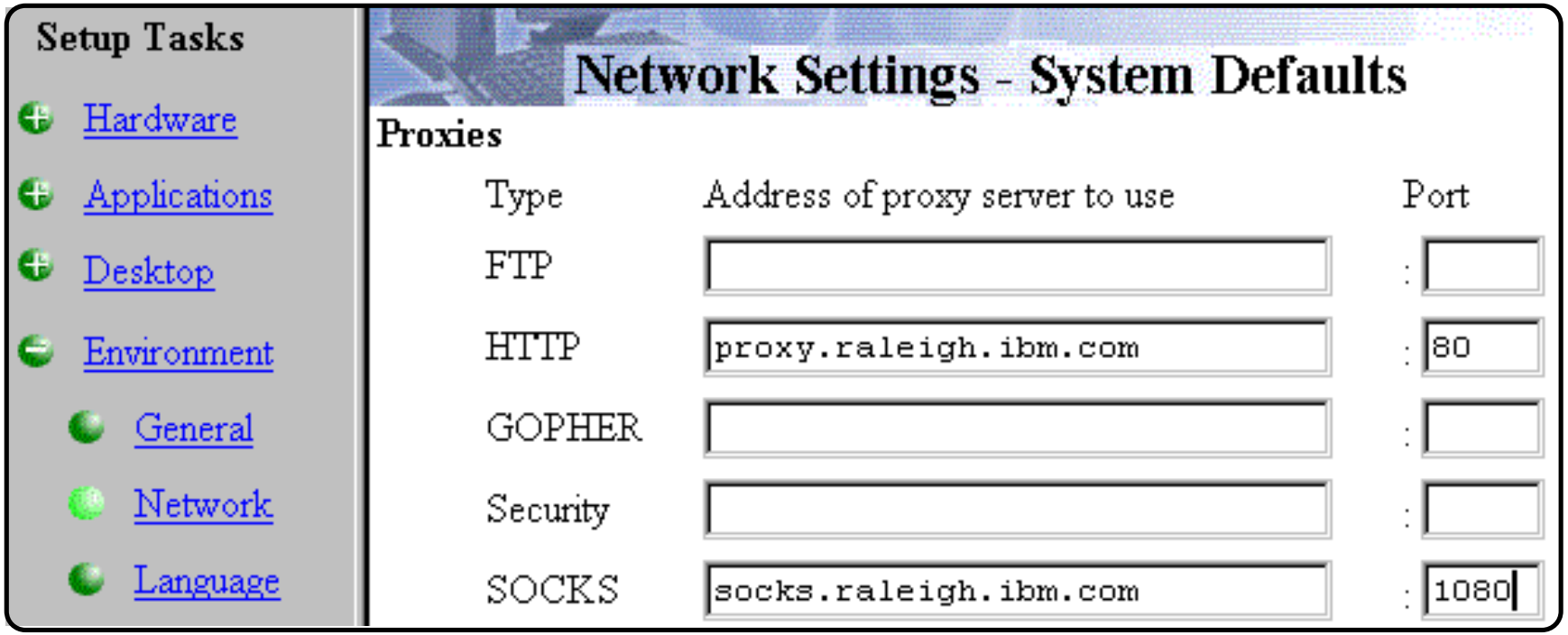
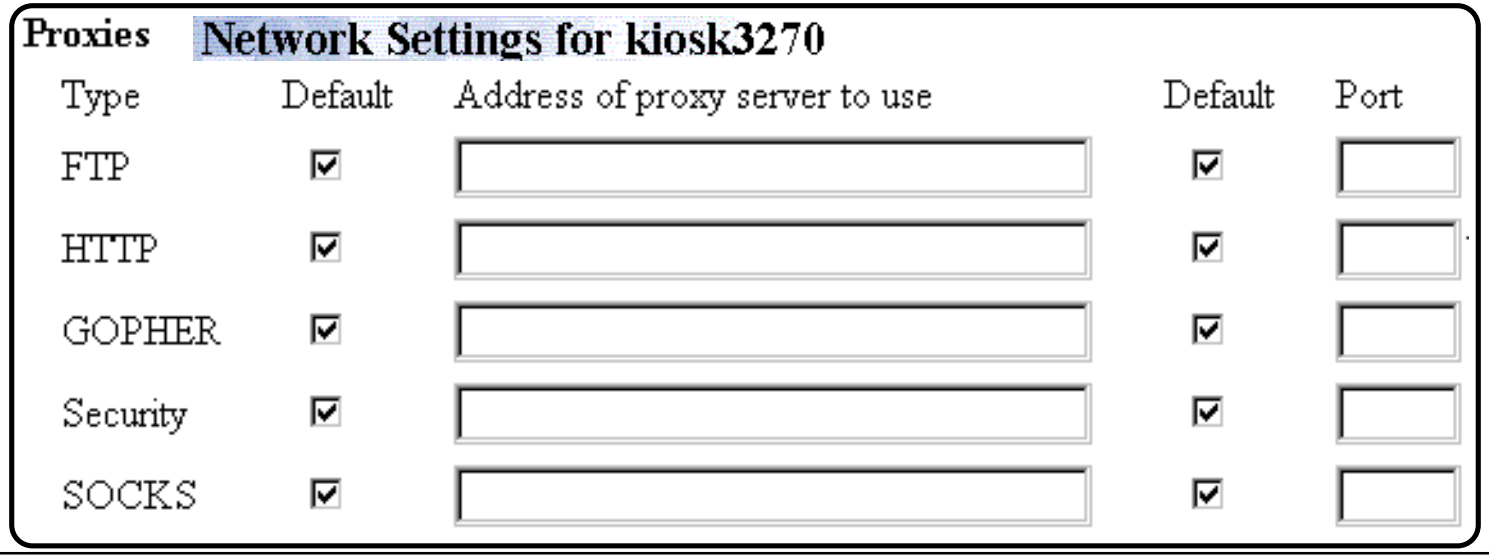
Adding Proxies - System and User





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Notes

Adding proxy servers or a socks server is typically required for users that are on an intranet and need to access the outside world through a firewall.

The top panel is a partial representation of the NSM Environment/Network configuration panel at the system level where proxy servers can be specified. In this case, we have added an HTTP proxy server and a SOCKS server, just as an example.

The panel below shows the same configuration panel but at a user level. Each entry where the default box is checked indicates that the entry from the system level (top of the chart) should be used. To override the system level, uncheck the box and make an entry applicable at this level.

These entries (the combination of the system level and user level, plus group level is one was also configured) are therefore the defaults that can be used by the applications.

One more step is needed at the application configuration to decide where to take the defaults from.

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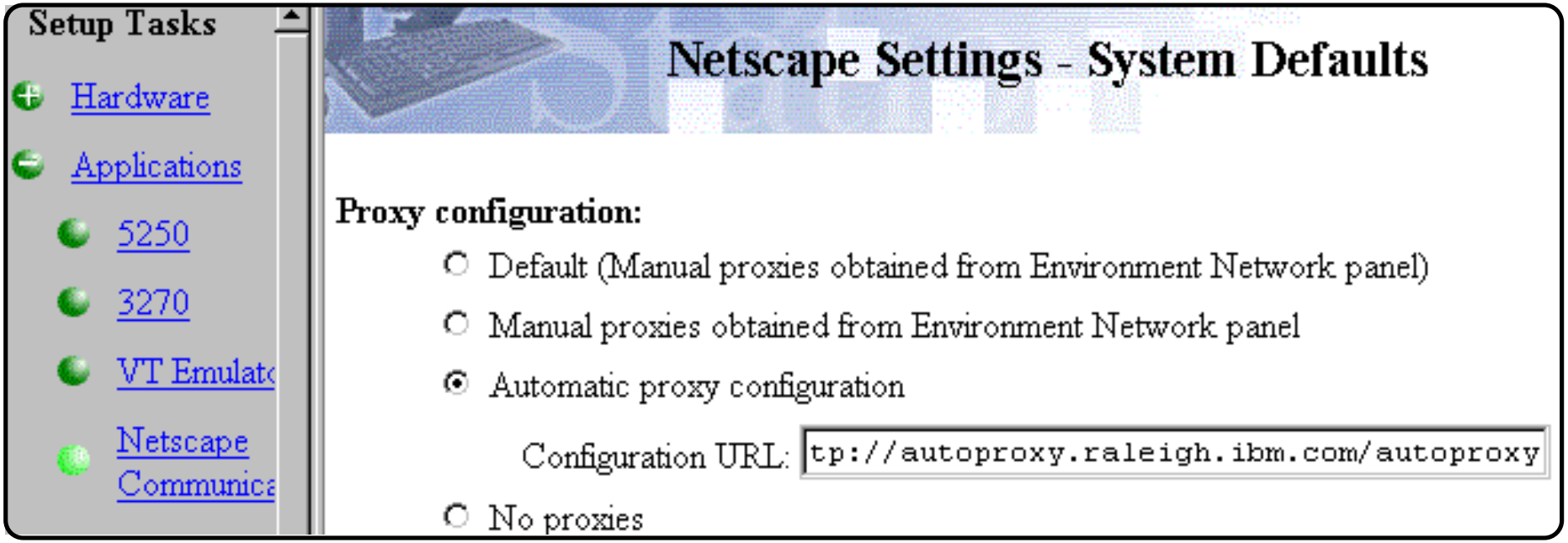
Proxies - Application Settings



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This chart is the Applications/Netscape Communicator proxy configuration section and it is used to specify where the application should retrieve its proxy configuration from.

The first two choices are basically the same, which is to obtain the data from the environment network configuration panel we just described in the previous chart.

The second choice is to use an autoproxy facility which specifies that the browser should get its proxy configuration from a specific URL.

The last choice is to use no proxy. This is the case when there is no firewall for example between the user and the outside public networks.

If these application settings are not configured here in NSM, they can be specified is in the application itself

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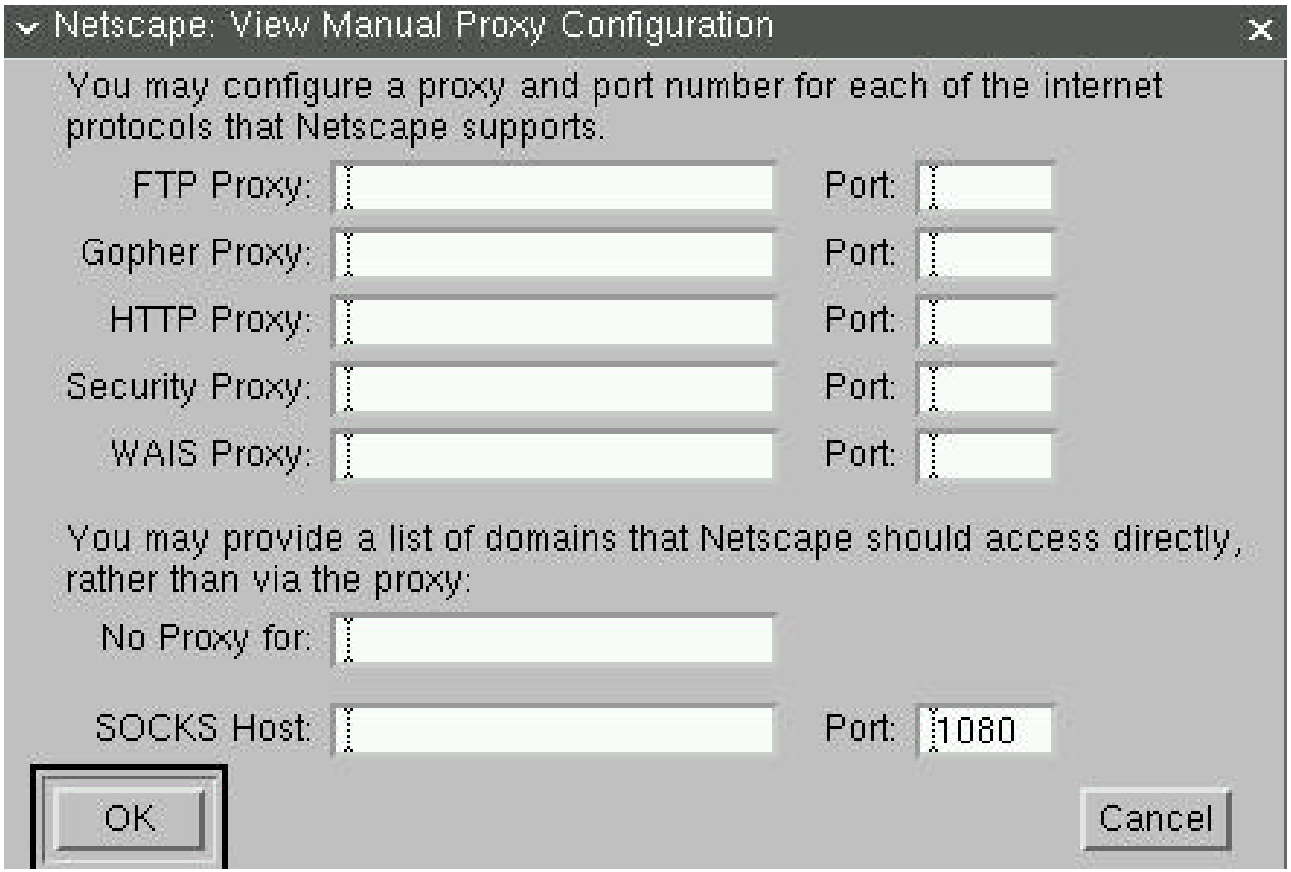
Proxies - Application Settings



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Notes

Even if the application inherited its proxy settings from the NSM configuration, these can still be overriden directly in the application configuration itself by setting the preferences.

Choosing Edit/Preferences/Advanced/Proxies/Manual Proxy Configuration displays the following panel into which you can enter your own proxy information.

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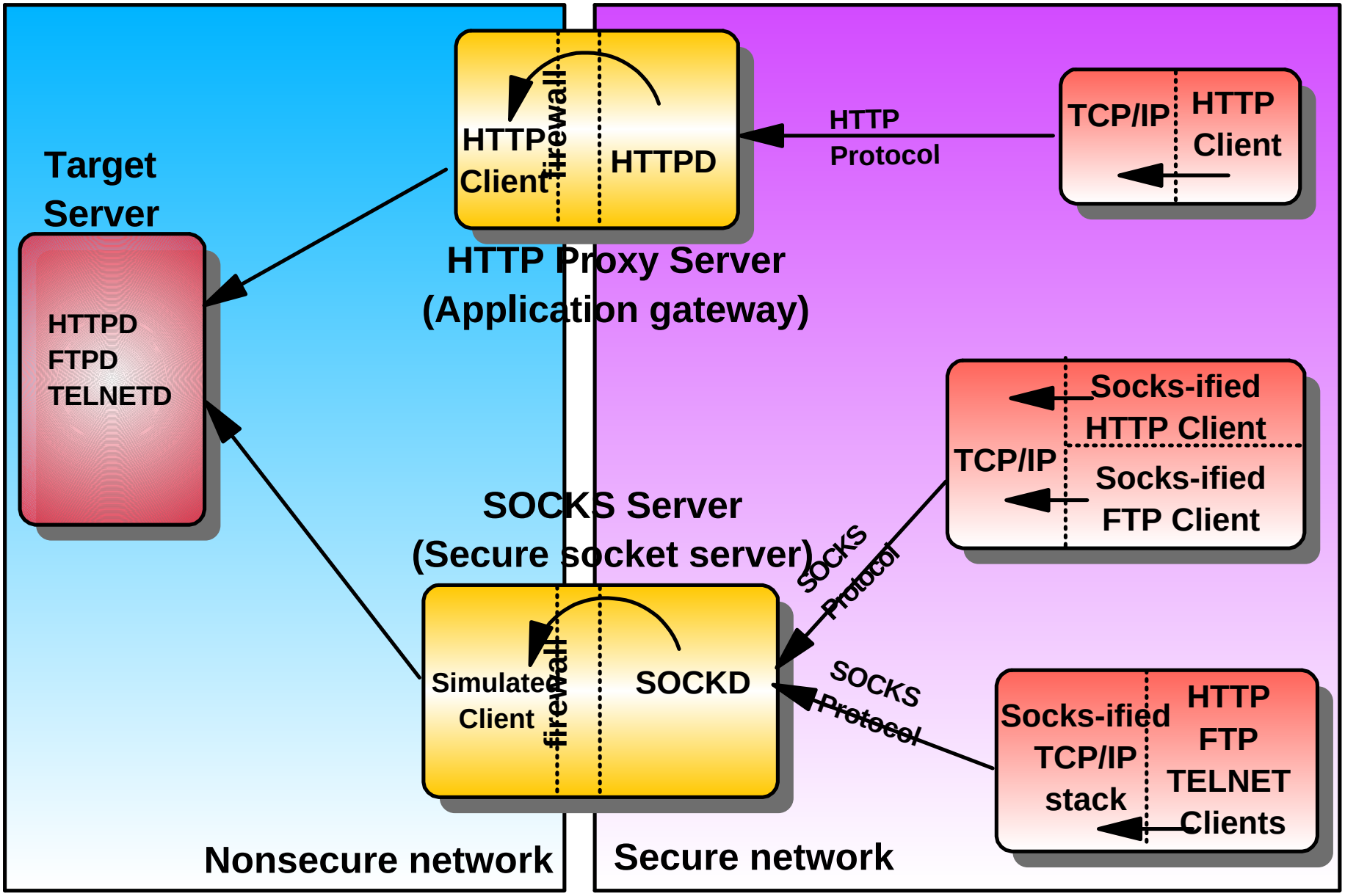
Proxies and Socks



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Proxies and SOCKS - Notes

For those who may not be familiar with proxy and socks servers, here is a quick conceptual chart illustrating the subtle difference between the two.

In the top portion of the diagram, we see on the right hand side an HTTP client, such as a Web browser, located in the secure network part, that needs to communicate with the HTTPD service on the target server located in the unsecure (public) part of the network.

The client specifies the address of an HTTP proxy server, and that server actually functions as an application gateway. An HTTPD daemon receives HTTP requests from clients on the secure side of the network , and also functions as an HTTP client on the unsecure side of the network, effectively becoming the actual client of the target HTTP server (and acting on behalf of the real client which is on the secure side of the network).

Therefore, as far as the target HTTP server is concerned, it is only aware of the HTTP proxy server client and it has no knowledge of the real client where the original HTTP request actually originated.

In the bottom portion of the diagram, a SOCKS server is used instead of a proxy server. In this case, the HTTP client contains a SOCKS client, that communicates with a SOCKS server to transmit the actual HTTP request. On receipt of the request, the SOCKS server transmits the request across the firewall, in a secure manner such that the target is also unaware of the actual real client.

In a proxy server, the HTTP application actually executes on the proxy server whereas in the case of a SOCKS server, the HTTP application remains on the actual client and the SOCKS server provides a secure passthru pipe.

In the case of a SOCKS client, the client application itself can be "socksified" and communicate with the socks server or the entire TCP/IP stack can also be socksified, which then permits all applications to communicate with a SOCKS server.

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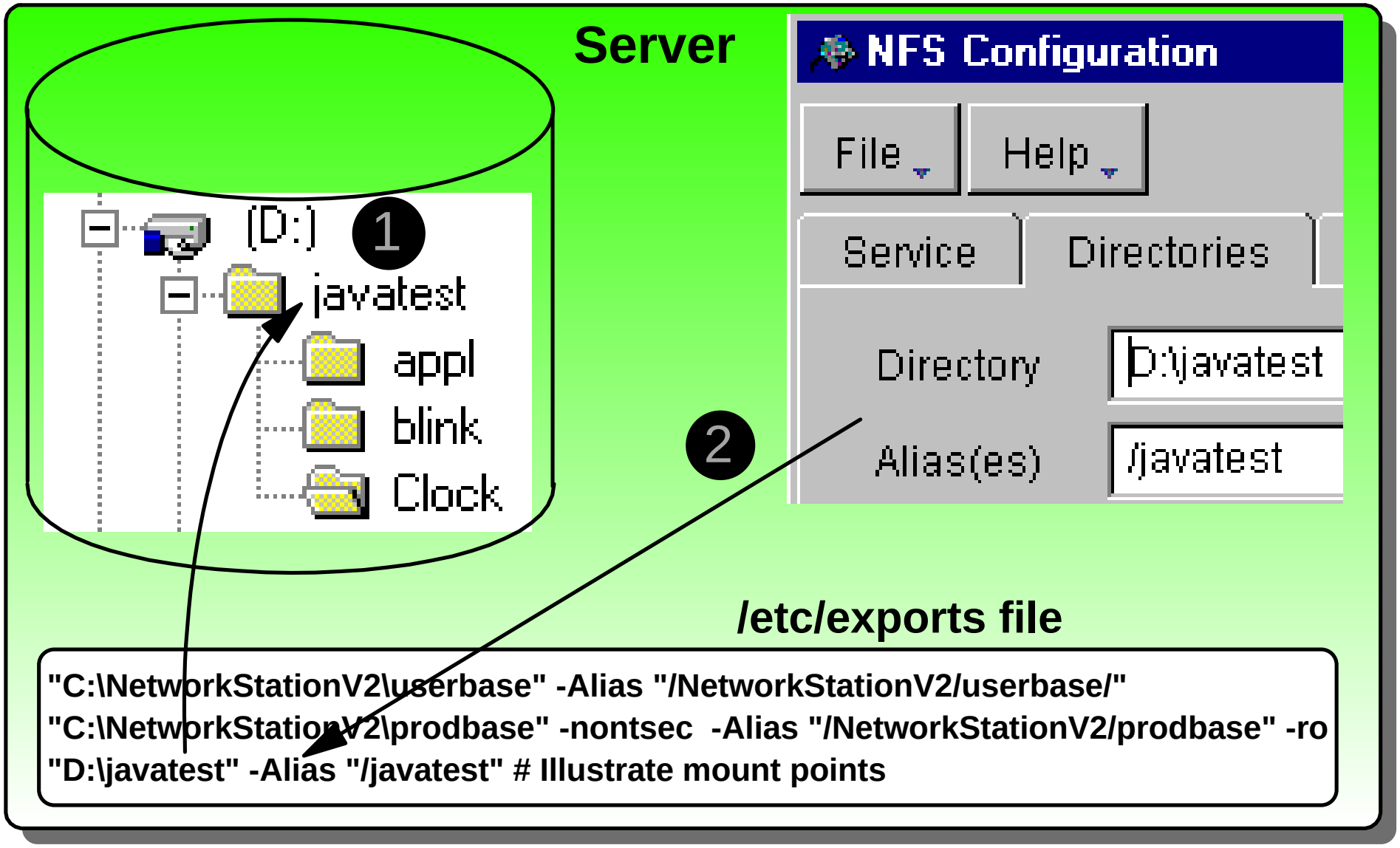
Configuring Mount Points (1)



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Notes

This illustrates the elements involved in defining additional mount points.

In V1R3, this was done by manually adding entries to a file-service-table statement in one of the configuration files. In V2R1, this is configured using NSM.

In order to make the charts readable, we have used multiple charts to describe this process.

In this example, as shown in (1) on the left, we create d:\javatest directory on the server, in this case a Windows NT server, that we want to access from the Network Station because we have put in this directory some sample java applets that we want to execute on the Network Station.

We use the NFS configuration GUI interface on the server to add the D:\javatest directory and give it an alias name of javatest, which result is the creation, as shown in (2), of a statement (D:\javatest" -Alias "/javatest) in the ../etc/exports file.

The NFS server is now ready to export that directory but we must also configure the Network Station side so that it knows about this directory.

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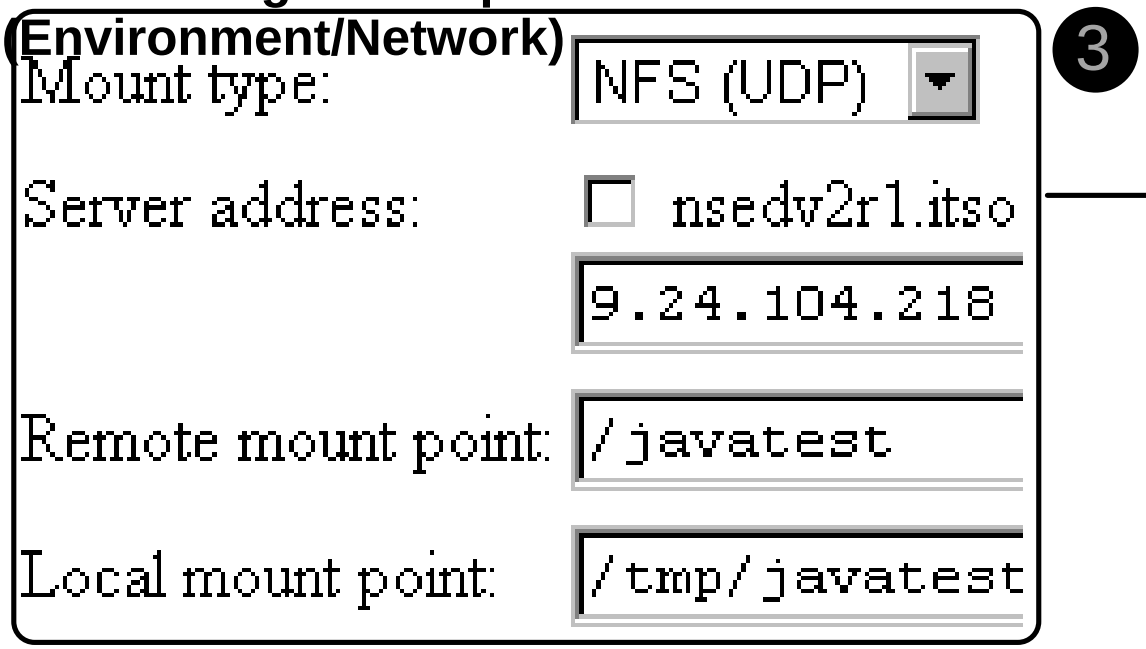
Configuring Mount Points (2)

NSM Configuration panel (Environment/Network)



allusers.nsm

```
<FIELD NAME="type">NFS_UDP</FIELD>
<FIELD NAME="server">nsedv2r1.itso.ral.ibm.com</FIELD>
<FIELD NAME="remote_mount">/javatest</FIELD>
<FIELD NAME="local_mount">/tmp/javatest</FIELD>
```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Notes

To let the Network Station know about that directory, we use the Network Station Manager configuration interface (the Environment/Network setup task) to create an entry as shown in (3).

The remote mount point (/javatest) is the alias that we used on the NFS server to represent the D:\javatest directory, and the local mount point (/tmp/javatest) is the name that is used locally on the Network Station to refer to that remote mount point. In this case, the local mount point name has to start with /tmp.

When you click on save in NSM, the statements get added to the allusers.nsm profile (assuming this was configured at the system level), as shown at the bottom of the diagram in (4).

This profile (allusers.nsm) gets downloaded to the Network Station during the boot process,
so that the operating system on the Network Station now knows about this mount point.

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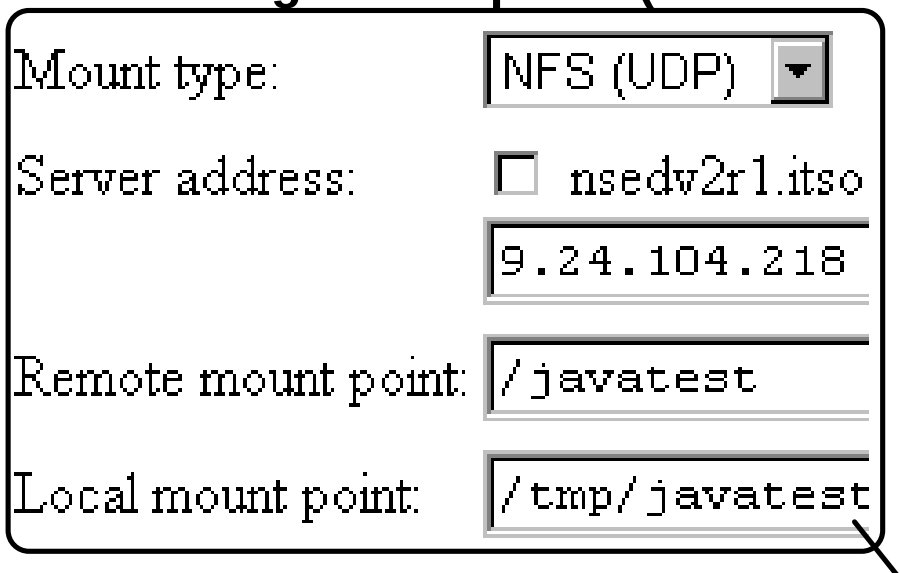
Configuring Mount Points (3)

NSM Configuration panel (Environment/Network)



Network Station

```
$ df
Filesystem                                          Mounted on
9.24.104.218:/NetworkStationV2/prodbase/x86         /
none                                                 /dev
none                                                 /tmp
9.24.104.218:/networkstationv2/userbase/home        /userbase/home
9.24.104.218:/networkstationv2/userbase/profiles/   /userbase/profiles
nsedv2r1.itso.ral.ibm.com:/javatest                 /tmp/javatest
```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Notes

After the Network Station has completed its boot process, if you do a display of the file system using the df command, you should see something similar to what is shown here in (5) at the bottom of the chart where the last line shows the entry for the mount point we just created on the server.

If you use the appletviewer command on the station for example, you would specify "appletviewer /tmp/javatest/ ...etc. to refer to anything in the D:\javatest directory on the server.

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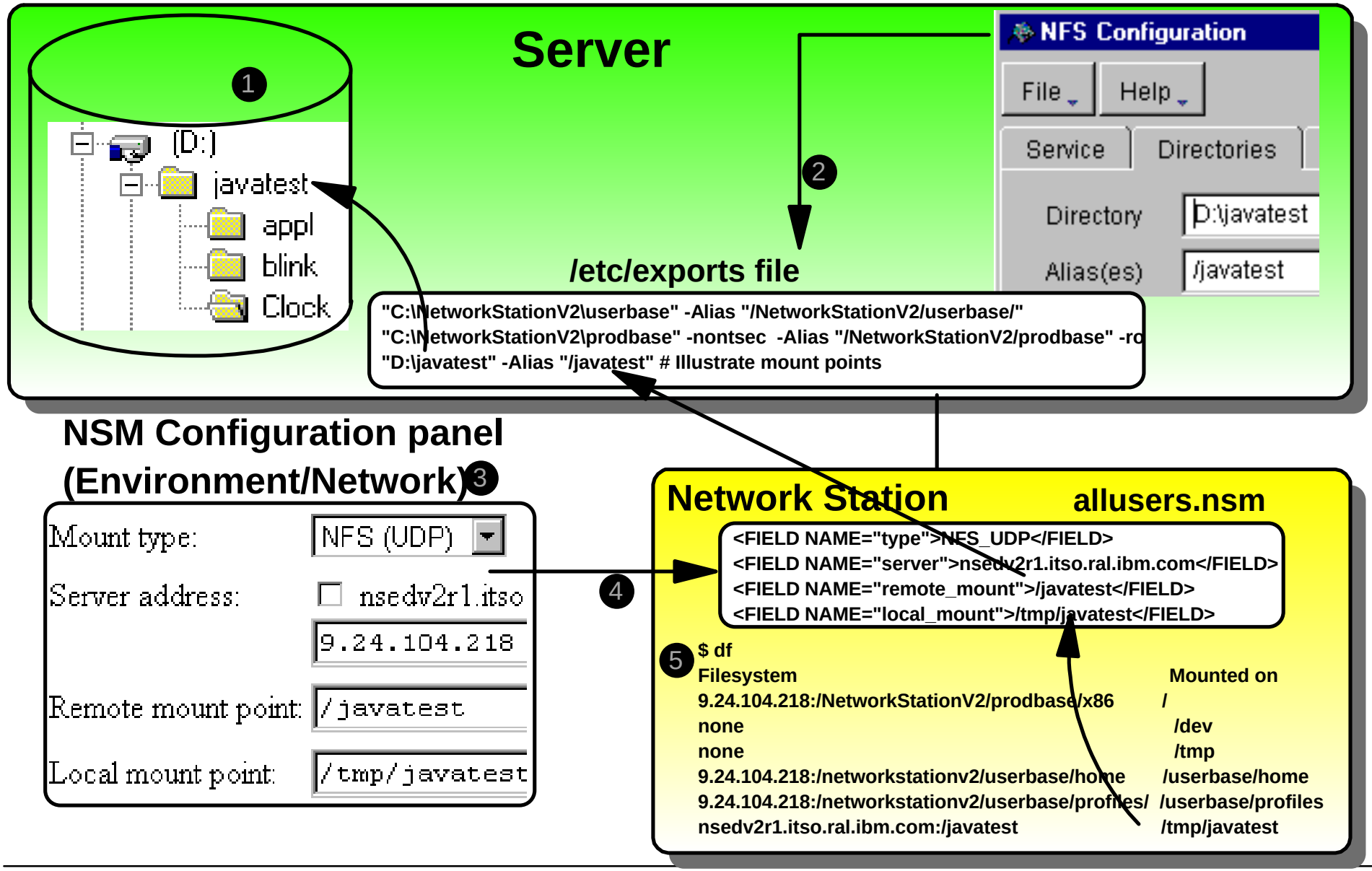
Configuring Mount Points



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As a summary, if we attempt to put all these elements together in one chart to show the overall relationships, this is what you get.

This may not be readable enough to be able to read the text, when you look at this slide, but you already know the contents of the text from the previous charts. If you use the printed version of these charts though. all the text should be easily readable, even on this chart.

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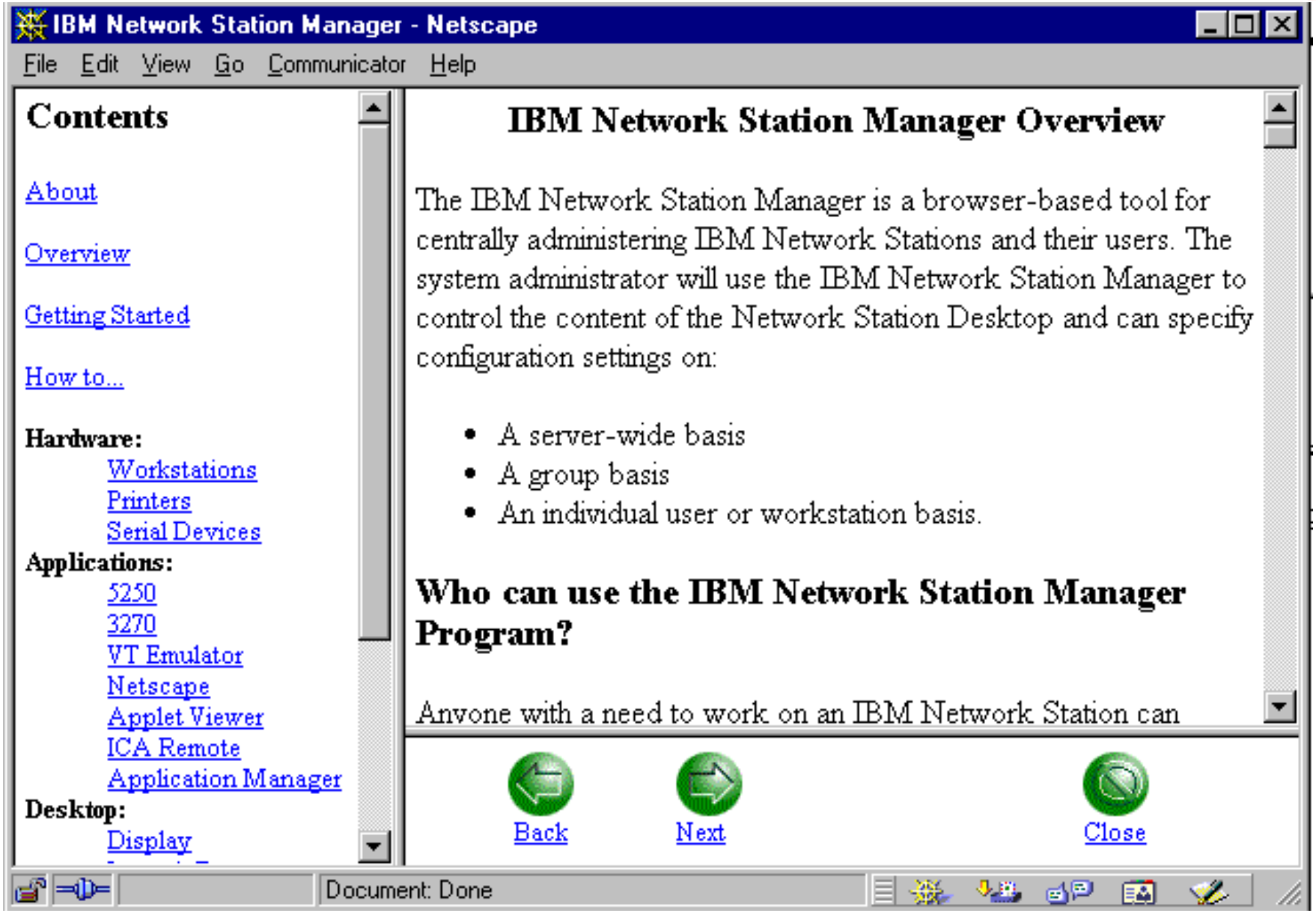
Online Help



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Notes

There is always a HELP button in bottom right hand corner of all NSM panels to call the Help function.

The frame on the left always provides a way to navigate to the different configuration sections, but the frame on the right is usually context-sensitive and positioned at whatever topic you requested help from.

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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 Network Station Manager**
  - **IBM Network Station Advanced Information (On the Web Site)**

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There are so many parameters that can be configured in NSM that we cannot describe them all here nor in the redbooks and product publications that you will find on this CD; however, the online help available in NSM is the best and most complete source of information on the individual parameters that can be found.

The using Network Station Manager product publication is now an individual publication, separate from the platform specific publications on how to install the product, and its new number is SC41-0690.

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