IBM Network Station

IBM Network Station Advanced Information V2R1, November 1999

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Note

Before using this information and the product it supports, be sure to read the information in “Appendix G. Notices” on page 177.

First Edition (September 1999)

This edition applies to version 2, release 1, modification 0 of IBM Network Station Manager (product number 5648-C07) and to all subsequent releases and modifications until otherwise indicated in new editions.

Contents

IBM Network Station Advanced Information

Who should read this book

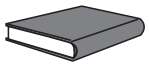
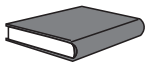
This information is intended for the person who needs to understand advanced concepts that are related to the IBM Network Station environment.

Information available on the World Wide Web

You can obtain the latest version of this book on the World Wide Web from the following URL: `http://www.ibm.com/nc/pubs` This is the same URL that is printed on the cover of this book.

Related information

The following information is available for the IBM Network Station Manager product:

	Information name	Information description
	Installing IBM Network Station Manager for AS/400, SC41-0684	Describes the installation and simple configuration of an AS/400 Network Station environment. It is shipped with the IBM Network Station Manager licensed program. Updates to this information are at http://www.ibm.com/nc/pubs.
	Installing IBM Network Station Manager for RS/6000, SC41-0685	Describes the installation and simple configuration of an RS/6000 Network Station environment. It is shipped with the IBM Network Station Manager licensed program. Updates to this information are at http://www.ibm.com/nc/pubs.
	Installing IBM Network Station Manager for Windows NT, SC41-0688	Describes the installation and simple configuration of a Windows NT Network Station environment. It is shipped with the IBM Network Station Manager licensed program. Updates to this information are at http://www.ibm.com/nc/pubs.
	Using IBM Network Station Manager, SC41-0690	Describes the basic tasks for managing user desktops through the IBM Network Station Manager program. It is shipped with the IBM Network Station Manager licensed program. Updates to this information are at http://www.ibm.com/nc/pubs.
	IBM Network Station Advanced Information	Describes tasks and information beyond a basic installation and configuration of your Network Station environment. This information is only available at http://www.ibm.com/nc/pubs.
	IBM Network Station Manager help text	Describes the basic how-to tasks for configuring your Network Station desktop appearance. This information is availble by clicking the help icon in the IBM Network Station Manager program.
	Desktop help	Describes how to use and operate the Network Station desktop. This information is available by clicking the help icon in the lower right of the Network Station desktop.

How to send your comments

Your feedback is important in helping to provide the most accurate and high-quality information. If you have any comments about this book or any other documentation, fill out the readers' comment form at the back of this book.

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- The name of the book.
- The publication number of the book.
- The page number or topic to which your comment applies.

Chapter 1. Introduction

This book is intended to supplement the books that were shipped with your software. Use the *Installing IBM Network Station Manager* and *Using IBM Network Station Manager* books to install and use a basic Network Station environment. Use this book to find information that is beyond the scope of the books that were shipped with your software.

This book makes reference to substitution variables such as $ProdBase or <float>. See Table 20 on page 79 for an explanation of the substitution variables.

This book makes reference to environment variables such as ${IP}. See “Appendix B. Environment variables” on page 83 for an explanation of some common environment variables.

Chapter 2. Taking advantage of multiple server environments

You can install the IBM Network Station Manager licensed program on one computer system or on multiple computer systems. Any particular computer system can provide one or more of the server roles. On the Windows NT and RS/6000 platforms, the installation program allows you to easily install combinations of the server roles. A brief description of each server role follows:

BOOTP or DHCP server
BOOTP or DHCP provides the Network Station with information such as its IP address, the base code server address, and the address of the workstation configuration server.

IBM Network Station Manager program server
The IBM Network Station Manager program provides the ability to configure user configuration settings and workstation configuration settings. Examples of what you might configure on this server are a user's start-up programs or a user's browser preferences.

Base code server
The base code server provides the operating system (kernel) and the local application programs that are downloaded to the Network Stations.

Configuration server
The configuration server serves workstation configuration settings and user configuration settings. The address of the configuration server is the same as the address of the base code server by default. It is possible to split this service between two servers, where one server serves workstation configuration settings and another server serves user configuration settings (see "User configuration server" on page 5).

Authentication server
The authentication server provides user authentication. The address of the authentication server is the same as the address of the base code server by default. On the IBM Network Station login screen, you can use the *Roam* button to manually direct a Network Station to a different authentication server.

The authentication server is where the user's home directory resides. Because some applications (such as Netscape Communicator) may frequently access the user's home directory, you should make sure the communication link from the Network Station to the authentication server has adequate bandwidth.

Multiple server roles using DHCP

The DHCP options in Table 1 have the flexibility to apply on a network, subnet, class, or client basis. If you find that options 211-214 and 219 are already in use for other purposes, you can separate these options by subnet or class. Use Table 2 on page 4 to determine the Network Station classes.

Table 1. DHCP options for multiple server environments

Option number	Description
Option 3	Router IP Address (Default Gateway). Multiple IP addresses separated by a blank can be specified.
Option 66	Base code (bootstrap) server IP address.
Option 67	Boot file path.
Option 98	Authentication server URL consisting of the protocol and IP address. Multiple URLs separated by a blank can be specified.
Option 211	Protocol to use for the base code server. Possible values are tftp or nfs.
Option 212	Workstation configuration server IP address. Up to two addresses separated by a blank can be specified.

Table 1. DHCP options for multiple server environments (continued)

Option number	Description
Option 213	Configuration files path name for option 212. Up to two paths separated by a blank can be specified.
Option 214	Protocol to use for option 212. Possible values are nfs or rfs. Up to two values separated by a blank can be specified.
Option 219	Secondary base code server IP address.

Notes:

1. Options 211, 212, 213, 214, and 219 are vendor specific options in DHCP. If you are already using these options for another purpose, you will need to configure DHCP to avoid conflicts.
2. When two configuration servers are specified, the first server is tried. If that fails, then the second server is tried. If the second server is successful, then the second value in options 213 and 214 are used.
3. The IBM Network Stations must be using boot monitor version 3.0.0 or later. See the *Using IBM Network Station Manager* book for information on how to view the boot monitor version.

Table 2 lists the DHCP classes assigned to each IBM Network Station type and model.

Table 2. IBM Network Station DHCP Classes

Type-model, series, interface	Class
8361-110, 300, Ethernet	IBMNSM 2.1.0
8361-210, 300, token-ring	IBMNSM 1.1.0
8362-A22, 1000, token-ring	IBMNSM A.2.0
8362-A23, 1000, token-ring	IBMNSM A.2.0
8362-A52, 1000, Ethernet	IBMNSM A.5.0
8362-A53, 1000, Ethernet	IBMNSM A.5.0
8363-EXX, 2200, Ethernet	IBM 8363-EXX
8363-TXX, 2200, token-ring	IBM 8363-TXX
8364-EXX, 2800, Ethernet	IBM 8364-EXX
8364-TXX, 2800, token-ring	IBM 8364-TXX

Multiple server roles using the NS Boot utility

The NS Boot utility offers some limited ability to define multiple servers. (The NS Boot utility is found on the IBM Network Station Type 8363 and 8364.) The following servers are defined:

- First base code (boot file) server
- Second base code (boot file) server
- Third base code (boot file) server
- First workstation configuration server
- Second workstation configuration server
- Authentication server

These settings can be used when you use the Manual (NVRAM) boot method. The NS Boot utility settings can also be used to supplement the BOOTP boot method. For example, the NS Boot utility can be used to specify a domain name server. For more information on using NS Boot see the *Using IBM Network Station Manager* book.

User configuration server

User configuration profiles are normally provided by the authentication server. It is possible to define a server other than the authentication server to serve user configuration profiles. Follow the instructions below for your platform:

RS/6000 and Windows NT

Create a file named `nslduser.cfg` in the $ServBase/configs directory. The contents of the file should have the following format:

```
nsm_userconfig_server = server1 x.x.x.x y.y.y.y
nsm_userconfig_server = server2 x.x.x.x y.y.y.y
...
nsm_userconfig_server = servern x.x.x.x y.y.y.y
```

Where:

- n is less than or equal to 2048.
- server*n* is the name of the server where the user configuration profiles are located.
- x.x.x.x is a subnet.
- y.y.y.y is the subnet mask for the subnet.

The nslduser.cfg file is read by the login program at startup. When the user authenticates, the login program looks for an IP address match between the Network Station and the subnets defined in the nslduser.cfg file. If a match is found, the user configuration profile comes from the server specified in the nslduser.cfg file. If a match is not found, the user configuration profile comes from the authentication server.

AS/400

Create the user configuration server file. You can use the following command to create and edit the file:

```
STRSEU SRCFILE(QYTCV2/QYTCNSLD) SRCMBR(CONFIGSVR)
TYPE(TXT) TEXT('NSLD ConfigServer ')
```

The file should have the following format:

```
nsm_userconfig_server = server1 x.x.x.x y.y.y.y
nsm_userconfig_server = server2 x.x.x.x y.y.y.y
...
nsm_userconfig_server = servern x.x.x.x y.y.y.y
```

Where:

- n is less than or equal to 2048.
- server*n* is the name of the server where the user configuration profiles are located.
- x.x.x.x is a subnet.
- y.y.y.y is the subnet mask for the subnet.

The user configuration server file is read by the login program at startup. When the user authenticates, the login program looks for an IP address match between the Network Station and the subnets defined in the user configuration server file. If a match is found, the user configuration profile comes from the server specified in the user configuration server file. If a match is not found, the user configuration profile comes from the authentication server.

Roaming user example

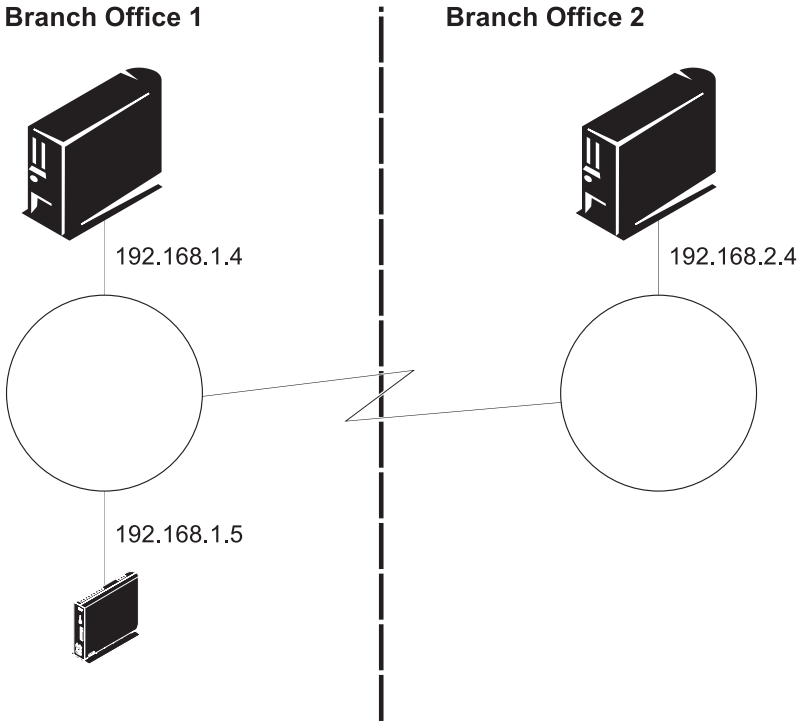


Figure 1. Roaming user example

Figure 1 shows how multiple servers can allow visiting users to obtain their home configurations.

In the case of a user from branch office 2 visiting branch office 1, one server is in branch office 1, and one server is in branch office 2.

The server in branch office 1 provides the following information:

- The IBM Network Station IP address
- The operating system and applications
- The workstation-based configuration information
- A log-on dialog

The visiting user selects the **Roam** button on the login dialog. The user then enters the name or IP address of the branch office 2 authentication server (192.168.2.4).

The branch office 2 authentication server provides the following information:

- The authentication of the user
- The user-based configuration information

The IBM Network Station Manager program on the server in branch office 1 manages the workstation-based configuration information. The IBM Network Station Manager program on the server in branch office 2 manages the user-based configuration information.

Load balancing example

Load balancing implies that you can share the burden of serving Network Stations to reduce network

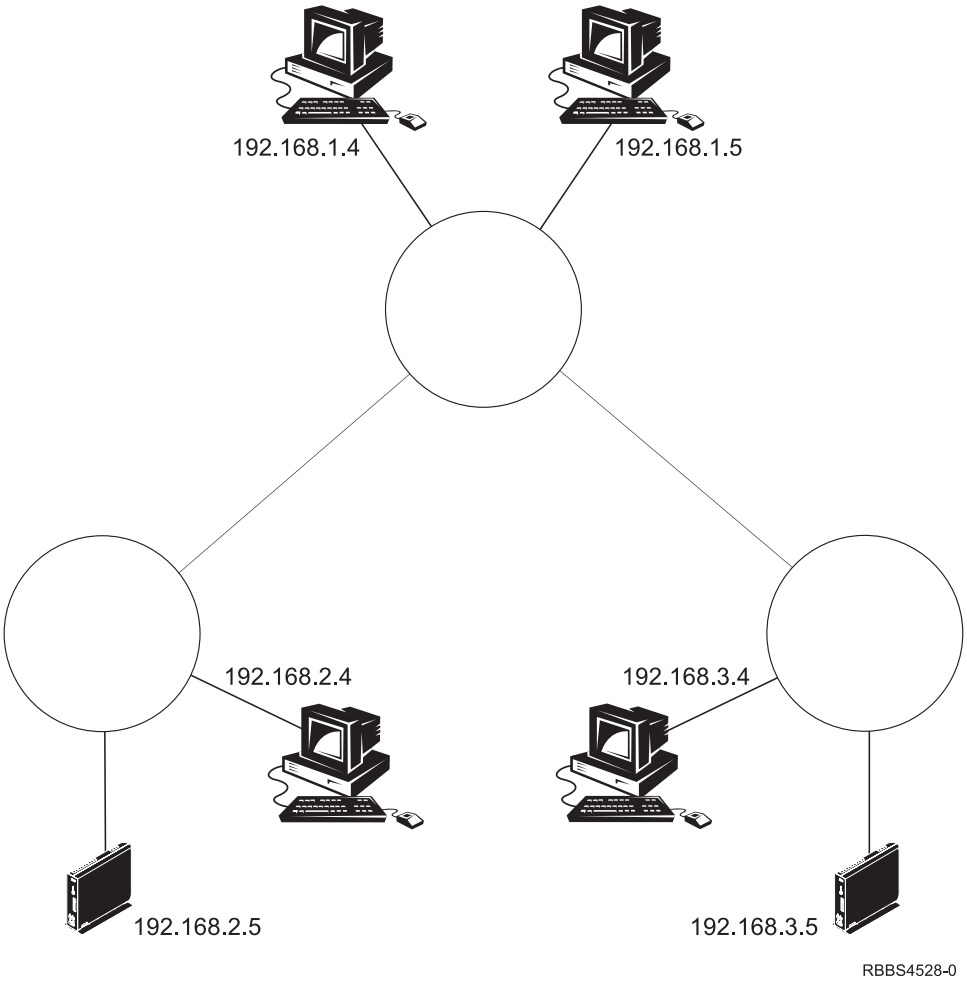


Figure 2. Load balancing example.

congestion. For example, if a site experiences a power outage, it might have a large number of Network Stations power on simultaneously (known as a boot storm). If each Network Station received its boot files from the same server, the server may experience performance degradation.

One solution for a boot storm is to have multiple base code servers. In Figure 2 there is one base code server assigned per subnet. Table 3 describes which services each server provide.

Table 3. Services for Network Stations in Figure 2.

Server roles	**IP address**
IBM Network Station Manager program server	192.168.1.4
Workstation and user configuration server	192.168.1.4
DNS server	192.168.1.5
DHCP server	192.168.1.5
Authentication server	192.168.1.4
Base code server for 192.168.2.0	192.168.2.4
Base code server for 192.168.3.0	192.168.3.4

Table 4 describes the order that the 192.168.3.5 Network Station accesses the servers after power-on.

Table 4. Load balancing power-on sequence for 192.168.3.5

Server role	**IP address**
1. DHCP server	192.168.1.5
2. Base code server	192.168.3.4
3. Workstation configuration server	192.168.1.4
4. Authentication server	192.168.1.4
5. User configuration server	192.168.1.4

Table 5 describes how DHCP is configured to create the example for 192.168.3.5.

Table 5. DHCP configuration for 192.168.3.5

DHCP option	**Example**
66 base code server	192.168.3.4
67 boot file path	/NetworkStationV2/prodbase/x86/kernel.2800
98 authentication server IP address	RAP://192.168.1.4
211 base code server protocol	nfs
212 workstation configuration server IP address	192.168.1.4
213 configuration files path for option 212	/NetworkStationV2/userbase/profiles/
214 protocol for option 212	nfs

AS/400 example

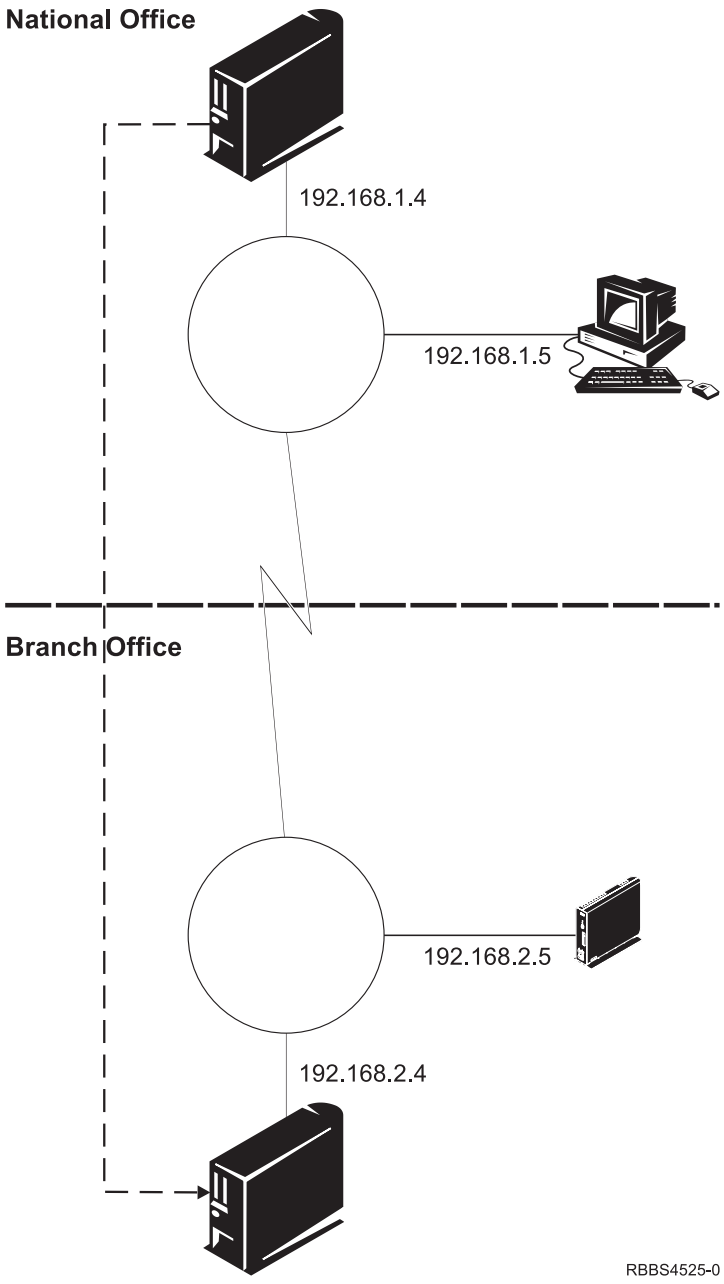


Figure 3. AS/400 example.

Figure 3 shows an example where the server roles of the Network Station environment are spread across multiple AS/400 servers. There is one national office server and one or more branch office servers. The national office serves as the central point of control. The following table describes which services are provided by each server.

Table 6. Services for Network Stations in Figure 3 on page 9.

	Server roles	**IP address**
National office	IBM Network Station Manager program server	192.168.1.4
	Authentication server	192.168.1.4
	Workstation and user configuration server	192.168.1.4
	DHCP server	192.168.1.4
	DNS server	192.168.1.5
Branch office	Base code server	192.168.2.4
	Workstation and user configuration server	192.168.2.4

In this example the IBM Network Station Manager program on the national office server is used to maintain workstation and user configurations on the branch office server. When the workstation configuration files and the user configuration files are changed on the national office server, they are copied to the branch office server. The authentication services are provided by the national office server. The workstation and user configuration files and the local Network Station applications are served from the branch office server.

In this example a full installation of the IBM Network Station Manager licensed program is installed on both the national office (192.168.1.4) and branch office (192.168.2.4) servers.

Table 7 shows how DHCP is configured to create this example.

Table 7. DHCP options for Figure 3 on page 9

DHCP option	**Example**
66 Base code server	192.168.2.4
67 boot file path	/QIBM/ProdData/NetworkStationV2/x86/kernel.2800
98 authentication server IP address	RAP://192.168.1.4
211 base code server protocol	tftp
212 workstation configuration server IP address	192.168.2.4
213 configuration files path for option 212	/QIBM/UserData/NetworkStationV2/profiles/
214 protocol for option 212	rfs

Windows NT example

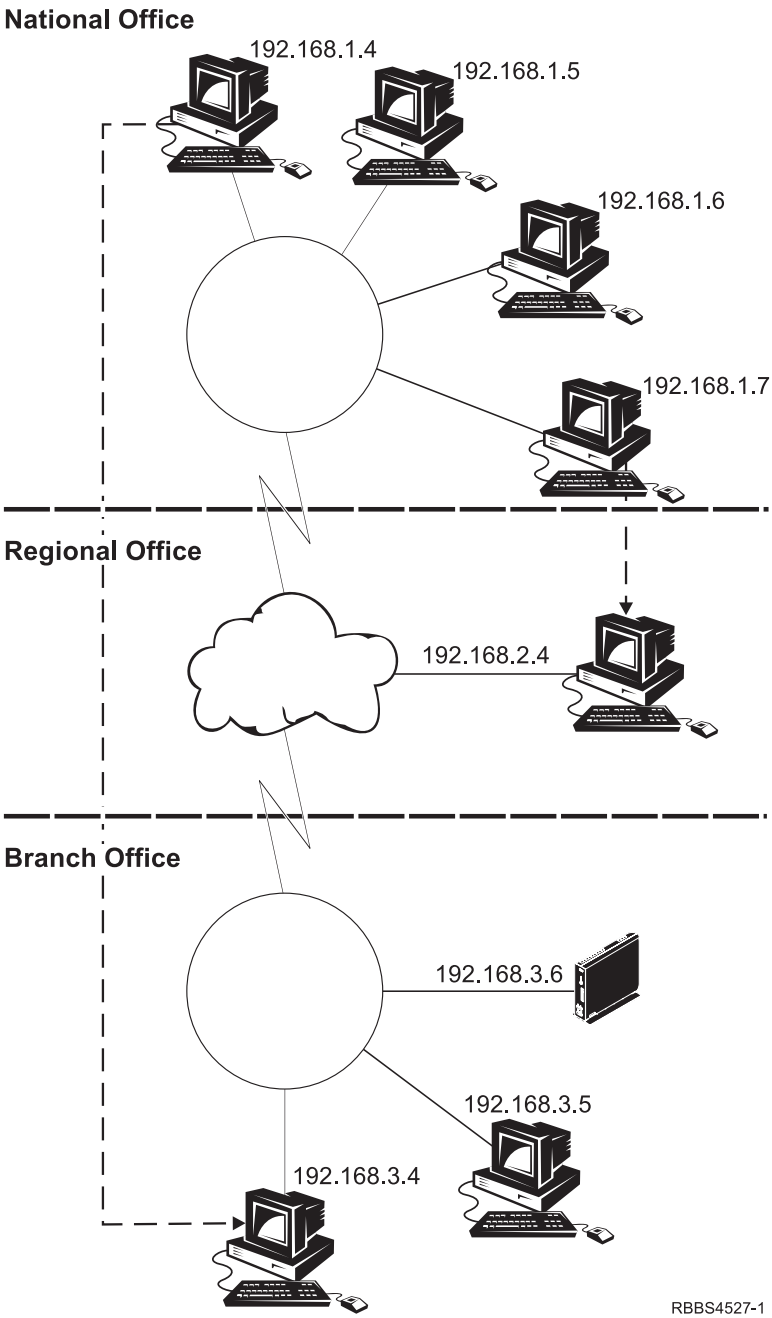


Figure 4. Windows NT example.

Figure 4 shows an example where the server roles of the Network Station environment are spread across multiple Windows NT servers. There is one national office server, one or more regional office servers, and one or more branch office servers. The national office serves as the central point of control. The following table describes which services are provided by each server.

Table 8. Services for Network Stations in Figure 4 on page 11.

	Server roles	**IP address**
National office	IBM Network Station Manager program server	192.168.1.4
	Workstation and user configuration server	192.168.1.4
	DNS server	192.168.1.5
	Primary domain controller (PDC)	192.168.1.6
	DHCP server	192.168.1.7
Regional office	Authentication server	192.168.2.4
Branch office	Base code server	192.168.3.5
	Workstation and user configuration server	192.168.3.4

In this example the user and workstation configuration files are served by the branch office server and maintained by the IBM Network Station Manager program installed on the national server. The user and workstation configuration files are updated on the national office server and copied to the branch server. The authentication services are provided by the regional office server. The local Network Station applications are served from the branch server.

When the authentication server is separated from the workstation and user configuration server, user credentials must be synchronized across the servers. The system administrator must generate the NFS user file (Iuser.cfg) and apply this file to the NFS server on each machine. All servers must be members of the same Windows NT domain. These two tasks together ensure that a uid and gid are consistently mapped to the same Windows NT user across servers and that Windows NT users are correctly granted access to files and directories based on NTFS permissions.

An example of an Iuser.cfg (the first letter of the filename is an uppercase i) file is shown below:

```
*:NSM_NFSROOT:0:0:::
*:sosuser1:10001:1:::
*:sosuser2:10002:1:::
*:sosuser3:10003:1:::
*:sosuser4:10004:1:::
*:sosuser5:10005:1:::
*:sosuser6:10006:1:::
*:sosuser7:10007:1:::
*:sosuser8:10008:1:::
*:sosuser9:10009:1:::
```

The format of the entries in the file is `*:UserName:uid:gid:::`. Where:

- UserName is a Windows NT user name.
- uid is an integer between 1 and 32000.
- gid is the integer 1 for Network Station users.

The first line of the file must always contain `*:NSM_NFSROOT:0:0:::`.

Installation considerations:

National office server (192.168.1.4)

The national office server (192.18.1.4) is added to the same domain as the other servers. Domain users are added to the local NSMUser group and local preference groups are created. See the *Installing IBM Network Station Manager for Windows NT* book for a description of how to add users to the NSMUser group. The Custom Install installation option is selected for the national office server (192.168.1.4). The following components are installed:

- Common Server Files

- Network Station Manager Program

The following post-install adjustments are required:

1. Stop the NFS service.
2. Copy the Iuser.cfg file to x:\<float>\OnDeman\Server\etc.
3. Start the NFS server.
4. Create a directory in $UserBase\nsmshared for each user.
5. Set the NTFS access control lists on the directories that you just created:

Table 9. Access control list for $UserBase\nsmshared\<user>

Access control entry	**Permissions**
Administrators	Full Control
NSMAdmin	Full Control
NSMUser	Read
SYSTEM	Full Control
<user>	Full Control

6. Create user, group, or workstation profiles using the IBM Network Station Manager program.

Regional office server (192.168.2.4)

The regional office server (192.168.2.4) is installed as a member of the Windows NT domain. Domain users are added to the local NSMUser group. See the *Installing IBM Network Station Manager for Windows NT* book for a description of how to add users to the NSMUser group. The Custom Install option is selected for the regional office server (192.168.2.4). The following components are installed:

- Common Server Files
- Network Station Login Services

The following post-install adjustments are required:

1. Stop the NFS service.
2. Copy the Iuser.cfg file to x:\<float>\OnDemand\Server\etc.
3. Start the NFS server.
4. Create the file x:\<float>\Network StationV2\servbase\configs\nslduser.cfg. See “User configuration server” on page 5 for more information. For example:

```
nsm_userconfig_server = 192.168.3.4 192.168.3.0 255.255.255.0
```

Branch office base code server (192.168.3.5)

The branch office base code server (192.168.3.5) is added to the same domain as the other servers. The Base Code Server Install installation option is selected for the branch office base code server (192.168.3.5).

Branch office configuration server (192.168.3.4)

The Custom Install option is selected for the branch configuration server (192.168.3.4). The following component is installed:

- Common Server Files

The following post-install adjustments are required:

1. Stop the NFS service.
2. Copy the Iuser.cfg file to x:\<float>\OnDemand\Server\etc.
3. Start the NFS server.
4. Copy the user, group, or workstation profiles and $UserBase\nsmshared directories from the national office server (192.18.1.4) to the branch office configuration server (192.168.3.4).

5. Set the NTFS access control lists on the profiles and $UserBase\nsmshared directories:

Table 10. Access control list for $UserBase\nsmshared\<user>

Access control entry	**Permissions**
Administrators	Full Control
NSMAdmin	Full Control
NSMUser	Read
SYSTEM	Full Control
<user>	Full Control

Table 11. Access control list for $UserBase\profiles\users\<user>.nsm

Access control entry	**Permissions**
Administrators	Full Control
NSMAdmin	Full Control
SYSTEM	Full Control
<user>	Full Control

Table 12. Access control list for $UserBase\profiles\groups\<group>.nsm

Access control entry	**Permissions**
Administrators	Full Control
NSMAdmin	Full Control
SYSTEM	Full Control
<group>	Read

Table 13 shows how DHCP is configured to create this example.

Table 13. DHCP options for Figure 4 on page 11

DHCP option	**Example**
66 Base code server	192.168.3.5
67 bootfile path	/NetworkStationV2/prodbase/x86/kernel.2800
98 authentication server IP address	RAP://192.168.2.4
211 base code server protocol	nfs
212 workstation configuration server IP address	192.168.3.4
213 configuration files path for option 212	/NetworkStationV2/userbase/profiles/
214 protocol for option 212	nfs

RS/6000 example

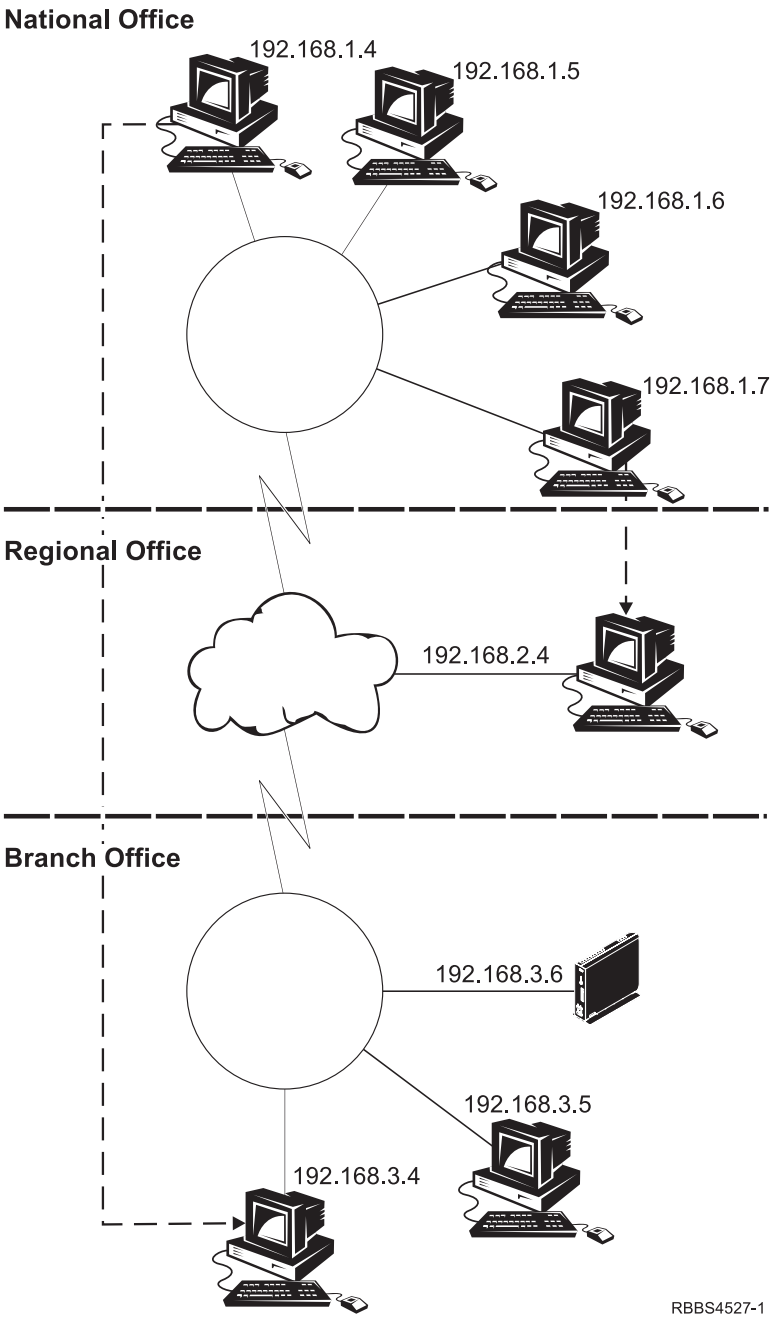


Figure 5. RS/6000 example.

Figure 5 shows an example where the server roles of the Network Station environment are spread across multiple RS/6000 servers. There is one national office server, one or more regional office servers, and one or more branch office servers. The national office serves as the central point of control. The following table describes which services are provided by each server.

Table 14. Services for Network Stations in Figure 5 on page 15.

	Server roles	**IP address**
National office	IBM Network Station Manager program server	192.168.1.4
	Workstation and user configuration server	192.168.1.4
	DNS server	192.168.1.5
	NIS master server	192.168.1.6
	DHCP server	192.168.1.7
Regional office	Authentication server (NIS slave server)	192.168.2.4
Branch office	Base code server	192.168.3.5
	Workstation and user configuration server	192.168.3.4

In this example the user and workstation configuration files are served by the branch office server and maintained by the IBM Network Station Manager program installed on the national server. The user and workstation configuration files are updated on the national office server and copied to the branch server. The authentication services are provided by the regional office Network Information System (NIS) slave server. The local Network Station applications are served from the branch server.

Note: In this example NIS is being used. If you are not using NIS, the authentication server and the user configuration server must be located on the same computer.

Installation considerations:

National office server (192.168.1.4)

The national office server (192.18.1.4) is added to the same domain as the other servers. The following filesets are installed:

- eNetstation.base
- eNetstation.nsm
- eNetstation.msg.<lang>
- eNetstation.nsm.<lang>
- eNetstation.tools (optional)

The following post-install adjustment is required:

- Create user, group, or workstation profiles using the IBM Network Station Manager program.

Regional office server (192.168.2.4)

The following filesets are installed on the regional office server (192.168.2.4):

- eNetstation.base
- eNetstation.login
- eNetstation.msg.<lang>

The following post-install adjustment is required:

- Create the file /usr/Network StationV2/servbase/configs/nslduser.cfg. See “User configuration server” on page 5 for more information. For example:

  ```
  nsm_userconfig_server = 192.168.3.4 192.168.3.0 255.255.255.0
  ```

Branch office base code server (192.168.3.4)

The following filesets are installed on the branch office base code server (192.168.3.4).

- eNetstation.base
- eNetstation..S2x00.base**

- eNetstation.S300_1000.base**
- eNetstation.msg.<lang>

** These filesets may be installed separately or together depending upon the type of IBM Network Station hardware models in your network.

Branch office configuration server (192.168.3.5)

The following filesets are installed on the branch office configuration server (192.168.3.5):

- eNetstation.base
- eNetstation.msg.<lang>

The following post-install adjustment is required:

1. Copy the user, group, or workstation profiles on the national office server (192.18.1.4) to the branch office configuration server (192.168.3.5).

Table 15 shows how DHCP is configured to create this example.

Table 15. DHCP options for Figure 5 on page 15

DHCP option	Example
66 Base code server	192.168.3.5
67 bootfile path	/usr/NetworkStationV2/prodbase/x86/kernel.2800
98 authentication server IP address	RAP://192.168.2.4
211 base code server protocol	nfs
212 workstation configuration server IP address	192.168.3.4
213 configuration files path for option 212	/usr/NetworkStationV2/userbase/profiles/
214 protocol for option 212	nfs

Planning for backup servers

When your Network Stations are in a mission-critical role, it is important to plan for network failures. Because Network Stations are so dependent on servers for their operating system and applications, failure to communicate with their servers would stop productivity. For example, if the Network Stations on a network cannot communicate with their primary base code server, you could plan to direct the Network Stations to an alternative base code server. With proper backup planning, your end-users may be unaware of any server failures.

Figure 6 on page 18 describes a typical network topology for Network Stations that takes advantage of having the server roles on different physical servers.

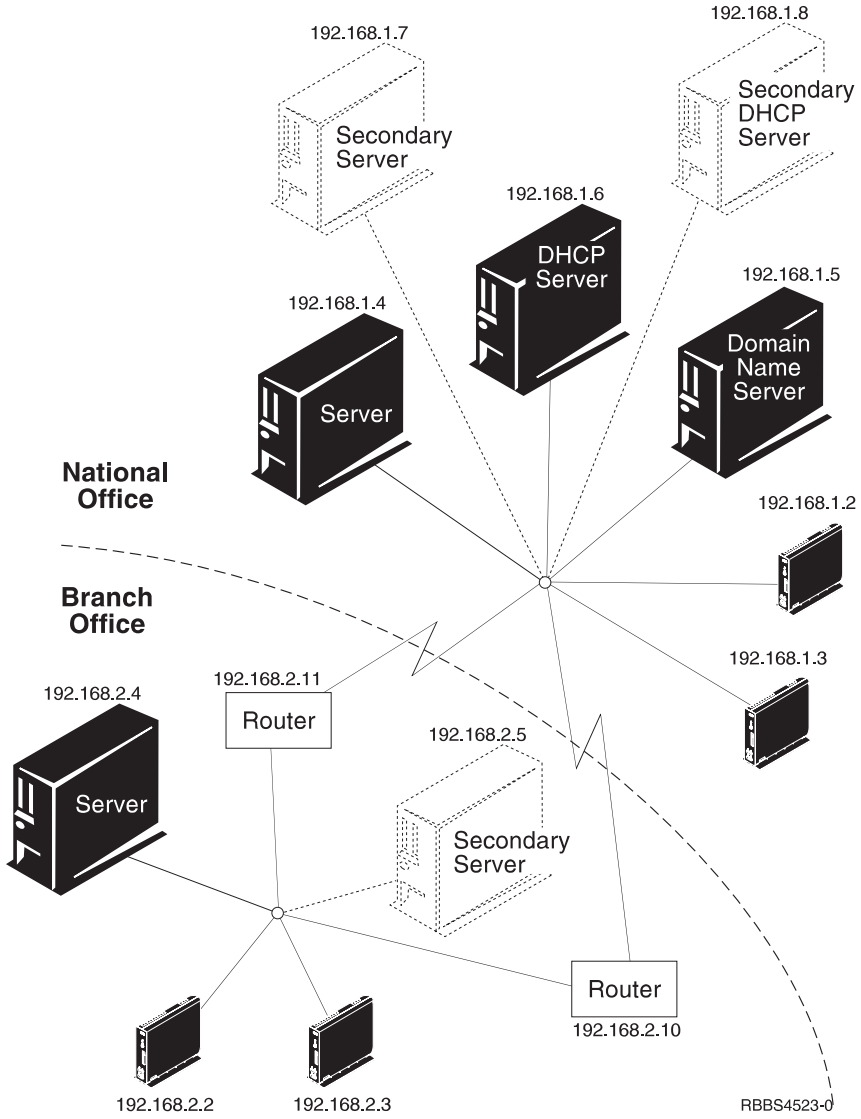


Figure 6. Network topology example with backup planning

Table 16. Backup possibilities

Symptom	Solution
Absence of primary router or gateway (192.168.2.10).	In your DHCP configuration modify option 3 to add up to three IP addresses of gateways. The first address being the first choice, the second address being the second choice, and so on. For example 192.168.2.10 192.168.2.11.
Absence of primary base code, workstation configuration, and application server (192.168.2.4).	In your DHCP configuration, add option 219 to specify a secondary base code server. For example 192.168.2.5.
Absence of primary authentication and user configuration server (192.168.1.4).	In your DHCP configuration, add a second server to option 98.
Absence of primary DHCP server (192.168.1.6).	Add a secondary DHCP server (192.168.1.8) on your network. Or add a BOOTP server and set the Network Stations to boot first from the DHCP server and second from the BOOTP server.

Chapter 3. Kiosk mode

Several template files are provided as part of IBM Network Station Manager. These template files enable kiosk mode. Kiosk mode creates a full screen environment for a specific application and bypasses the login function.

The intent of the template files is to allow the deployment of configurable ″terminals″ that run a single application in a hardened environment. Kiosk mode is different than the suppression of login function (see “Kiosk mode compared to suppression of login” on page 20).

The template files are stored in the $ServBase/defaults directory. The following templates are provided:

- Appletviewer (appletviewer.ksk)
- ICA (ica.ksk)
- ICA Remote Application Manager (icaram.ksk)
- Java application (java.ksk)
- Netscape Communicator (netscape.ksk)
- 3270 emulator (ns3270.ksk)
- 5250 emulator (ns5250.ksk)
- VT emulator (nsterm.ksk)
- Xterm (unix.ksk)

The process for using these templates is as follows:

1. Copy the template for the appropriate application to the download profile for the workstation to be run in kiosk mode. This involves copying the file $ServBase/defaults/<application>.ksk to $UserBase/profiles/ncs/<ncid>.nsm where <ncid> is the host name, IP address or MAC address (without colons) of the workstation. If there is already a download profile for that workstation, it should be replaced.

   Notes:

   a. You should always copy the template to the workstation profile. The templates in $ServBase/defaults should not be changed.

   b. You should not create multiple download profiles for the same Network Station (where the download profile can be named by host name, IP address, or MAC address). Undesirable results may occur.

      For example, preferences are saved to both a host name and an IP address file. The host name and the IP address belong to the same Network Station. These preferences are read by the Network Station in the following order:

      1) Hostname
      2) MAC address
      3) IP address

      Workstation profiles are most likely be overridden as they are read. For example, if a preference is saved in a hostname file and a different value for the same preference is saved in an IP address file, the IP address value will take precedence because it is read last. Preferences that are set in the hostname.nsm file and not set in the IP address file may be dropped. This behavior is dependent upon the NSM_NC_NAME_TYPE property of the RULES category of the Network Station registry. The property can have possible values of ANY, IP_ADDRESS, MAC_ADDRESS, or HOST_NAME. If ANY is given (the default), the above behavior will occur. If IP_ADDRESS, MAC_ADDRESS, or HOST_NAME are given, only the IP address, MAC address, or hostname profile respectively will be read. This can be changed at the system level using the IBM Network Station Manager command line utility.

2. Edit the download profile for the terminal to make any modifications. Refer to “Chapter 8. Customizing additional values” on page 51 for more information on command line parameters. Refer to the following for examples:

ns5250.ksk

To configure a kiosk that opens a session to the boot server and assigns the Network Station host name as the 5250 session name. Change the following line:

```
<PROPERTY NAME="desktop_command">nsm_wrapper ns5250 ${SERVER_ADDRESS} -geometry 9999x9999+0+0
```

to:

```
<PROPERTY NAME="desktop_command">nsm_wrapper ns5250 ${SERVER_ADDRESS} -USER_NAME USE_HOST_NAME
-geometry 9999x9999+0+0<PROPERTY>
```

netscape.ksk

To configure a kiosk that opens a browser session to the www.ibm.com Web site. Change the following line:

```
<PROPERTY NAME="desktop_command">run_netscape<PROPERTY>
```

to:

```
<PROPERTY NAME="desktop_command">run_netscape www.ibm.com<PROPERTY>
```

Kiosk mode compared to suppression of login

The following table summarizes the differences between kiosk mode and suppression of login.

	Kiosk mode	**Suppression of login**
User is authenticated	No	Yes
Behavior scope	System and workstation	System, workstation, group, and user
Access to server file system	Read-only	Read/write
Window manager	Yes, but initial application runs without a window frame.	Yes
Desktop	No desktop, the application is the base window.	Configurable
Applications	One, however, it may launch others or open other windows.	One or more
Application launching	Auto-started, auto-restarted	Configurable

Chapter 4. Suppressing the Network Station login dialog

Suppression of the Network Station login means that the Network Station automatically logs itself in under a special userid. The login screen is not shown to the user. This is the same function that was available in V1R3. In the text below, we refer to the userid that is used by the Network Station as the special userid.

In order to suppress the login, a special userid must be created on your server. Each special userid's desktop can be configured using the IBM Network Station Manager program. If you have more than one special userid, you may want to create a user group for these userids. Each Network Station that you associate with the special userid can automatically login.These special userids and passwords (along with the Network Station host name or IP address that you want to associate) must be added to a file that is encoded and saved on your server.

To suppress the Network Station login dialog, do the following:

__ 1. **Attention:** Review the following security considerations:

All Platforms	• The unencoded file contains the unencoded passwords of the special userids. It should only be accessible by the system administrator. • The encoding program should only be accessible by the system administrator. • The special userids associated with suppression of login should have very limited authority. Userids should be created similar to guest userids. • The kiosks.nsl file should only be writeable by a system administrator. • If the file system cannot prevent a general user from creating the file, an empty file should be created and protected by the system administrator. • If the user or system administrator change the password for a special userid after the encoded file is created, then the password in the encoded file must be updated by performing this procedure again.

AS/400	• User profiles associated with suppression of login should have initial menu = *SIGNOFF, initial program = *NONE, limit capabilities = *YES, special authorities = *NONE, and group profile = *NONE.
	• Change the authority of the encoded file so that public is excluded from reading or writing, QTFTP has read access only, and the system administrator has write access. Write access is needed by the system administrator when using the encoding utility. The following commands could be used to restrict access to the encoded file:
	`CHGAUT OBJ('/qibm/prodata/networkstationv2/configs/kiosks.nsl')`
	`USER (*PUBLIC) DTAAUT(*EXCLUDE) OBJAUT(*NONE)`
	
	`CHGAUT OBJ('/qibm/prodata/networkstationv2/configs/kiosks.nsl')`
	`USER (*QTFTP) DTAAUT(*R) OBJAUT(*NONE)`
	
	`CHGAUT OBJ('/qibm/prodata/networkstationv2/configs/kiosks.nsl')`
	`USER (sysadmin) DTAAUT(*W) OBJAUT(*NONE)`
	
	Where sysadmin is the userid of the system administrator.

Windows NT	• The unencoded file should NOT be kept in any subdirectory of \networkstationV2\, since clients have NFS and TFTP read access to the entire \networkstationV2\ tree. • If the unencoded file is kept on the server, it should be placed in a directory with appropriate NTFS access control. For example, all access control entries except for the Administrators group could be removed from the file. • Consider keeping the unencoded file on a diskette and stored in a secure location. • Remember that the special userids associated with suppression of login must be added to the NSMUser group through the User Manager.

__ 2. Review these DHCP considerations:

- Suppression of login relies on the Network Station being associated with an IP address or IP host name that can be matched to an IP address or IP host name in the kiosks.nsl file. DHCP needs to be configured so that the Network Station is assigned a fixed address or an address in a designated range.
- Wildcards are allowed in the kiosks.nsl file. This allows a match to an address in a designated address range.
- The userid and password for the first IP address or IP host name match that is found in the kiosks.nsl file is used for authentication. Searching the file stops after the first match is found.

__ 3. Create a file by using the security consideration mentioned above. Use any file name other than kiosks.nsl. For EBCDIC platforms (AS/400), the unencoded file must be created in EBCDIC format, not ASCII format. If the unencoded file is created in ASCII format on these platforms, unpredictable results may occur.

__ 4. Edit the file to add the Network Station IP address or host name, special userid, and password. The values should be separated by one or more spaces. For example:

```
10.9.99.99 specialid1 password1
special2      specialid2 password2
```

In this example, the IP address 10.9.99.99 is associated with specialid1. The Network Station at 10.9.99.99 will auto-login under the userid of specialid1 and use the preferences of specialid1.

You can use wildcards (that match patterns) to specify the IP address or hostname. Wildcard usage is in regular expression notation.

Pattern	Description
string	String (no special characters) - a string with no special characters matches the first IP address or host name that contains the string.
[set]	Set - matches a single character specified by the set of single characters within the square brackets.
^	Caret - signifies the characters following the ^ are the beginning of the IP address or IP host name.
$	Dollar - signifies the characters preceding the $ are the end of the IP address or IP host name.
.	Period - signifies any one character. The period means match any character, not just the period in an IP address.
*	Asterisk - signifies zero or more of preceding character.
\	Backslash - signifies an escape character. When preceding any of the characters that have special meaning, the escape character removes any special meaning from the character. The backslash is useful to remove special meaning from a period in an IP address.

For example:

Pattern	Examples of IP addresses or IP host names that match
10.2.1.9	10.2.1.9, 10.2.139.6, 10.231.98.6
^10\.2\.1\.9$	10.2.1.9
^10\.2\.1\.1[0-5]$	10.2.1.10, 10.2.1.11, 10.2.1.12, 10.2.1.13, 10.2.1.14, 10.2.1.15
special	special01, myspecial, aspecialbc
^special$	special
^special0[0-4][0-9]$	special000 through special049
special[3-8]	special3, myspecial4, aspecial5b
^special	special01, special

Pattern	Examples of IP addresses or IP host names that match
special$	myspecial, special, 3special
special...	special123, myspecialabc, aspecial09bcd
special*1	special1, myspecial1, aspecial1abc, specialkkkkk12
^special0..	special001, special099, special0abcd
^special0..$	special001, special099

__ 5. Run the program to encode the file. The program creates the kiosks.nsl file and places it in the $UserBase/profiles/ncs directory.

Platform	Program Syntax

AS/400	`CALL PGM(QYTCV2/QYTCMTKS)`
	`PARM('/QSYS.LIB/MYLIB.LIB/MYFILE.FILE/KIOSKS.MBR' '37')`
	
	Where:
	• `'/QSYS.LIB/MYLIB.LIB/MYFILE.FILE/KIOSKS.MBR'` is the full path and name of the unencoded file.
	• `'37'` is the CCSID value. This parameter is optional and defaults to CCSID 37 if omitted.

Windows NT	`d:\networkstationV2\servbase\bin\nsmkiosk x:\myDir\kiosk.source` Where: • `d:\` is the default installation drive and path. • `x:\myDir\kiosk.source` is the full path and name of the unencoded file.
RS/6000	`/usr/netstationV2/bin/createKIOSKS kiosk.source` Where: • `kiosk.source` is the name of the unencoded file.

If an error code is returned by the program, use the following table for an explanation:

Error code	Description	Action
1	The unencoded filename parameter is not specified.	Make sure that you specified a parameter with the name of the unencoded file.
2	The CCSID parameter is not valid.	Make sure that you specified a valid CCSID.
3, x	The unencoded file cannot be opened or read.	Make sure that you have specifed the correct full path and name of the unencoded file. Make sure that the user running the encoding program has the correct authority to read the unencoded file.
4, x	The encoded file cannot be created or written.	Make sure that the user running the encoding program has the correct authority to create or write the encoded file.
5	An internal codepage conversion error has occurred.	Contact IBM service.
6	There is invalid data in the unencoded file.	Make sure that the unencoded file is created following the instuctions in step 4 on page 22. If you specified a CCSID as an input parameter, make sure that it matches the CCSID with which the file was created.

Chapter 5. Booting with a flash solution

The flash memory booting solution is best employed to provide boot capabilities where a local server is not available. A typical application is in a wide-area network where a few Network Stations are located in a remote site and it is not cost effective to provide a boot server.

The following steps provide an overview of how to create a flash boot solution:

1. Configure the server. See “Configure the server”.
2. Configure the Network Station. See “Configure the Network Station” on page 27.
3. Update the flash card. See “Update the flash card” on page 27.

Configure the server

Complete the following steps:

1. Use the IBM Network Station Manager to create a flash image on the server:
   a. Start the flash configuration utility. Click **Administration -> Flash Manager**. The flash configuration utility is a Java application. Make sure that you have Java enabled in your browser.

      Note: The flash configuration utility is only available at the System preference level.
   b. Click the **Create/Setup** tab.
   c. Enter the size of your flash card (in K bytes) in the **Flash Card Size** field. This value is used to update the **Space Available** field as you configure your flash image. **Flash Card Properties** does not prevent flash images from becoming too large, but helps you understand the size of the flash image.
   d. Click **New Image** and enter the name that you want to call your flash image. For example flash_01.
   e. Select the Network Station platforms for which the new image is to be created. For example, click **Both (X86 & PPC)** under **Hardware Support** to specify both X86 and PPC client support.
   f. Select which IBM Network Station Manager configuration files to include in the flash image. For example, click **None** under **NSM Configuration** to specify that you are not configuring a flash image for a kiosk.
   g. Click the **Applications** tab.
   h. Select an application from the column on the left and click **Add** to add an application to the flash image. Refer back to **Flash Card Properties** under the **Create/Setup** tab to monitor the **Space Available** on the flash card.

      Note: The **Space Available** is not an exact representation of size left on your flash card. The **Space Available** is an approximatation of the size of the applications minus the size of your flash card.
   i. Click the **Create/Setup** tab.
   j. Click the **Update** button to save the flash image on the server.

   It is possible to customize the available applications and their contents. See “Customization of flash images” on page 28 for more information.
2. Use the IBM Network Station Manager Program to set the check for flash image updates (boot-flash-update) flag. This enables the Network Station to check for new or updated flash images during the boot process. You can specify if all workstations or a specific workstation should update flash images by setting the flag at the system or workstation level.
3. If you are using DHCP, you should make sure that your DHCP is configured correctly for flash. Use the following table to verify your DHCP configuration:

Option	Name	Description
3	Router IP	Specifies a list of IP addresses for routers on the client's subnet. Routers should be listed in order of preference
66	Boot Server IP	Specifies the IP address of the primary boot server. This option is used to identify a TFTP server when the 'sname' field in the DHCP header has been used for DHCP options.
67	Boot file Name	This option is used to identify a bootfile when the 'file' field in the DHCP header has been used for DHCP options.
98	Authentication Server	Important for flash-based clients in a DHCP environment. The default authentication server is the boot server. It is not possible to authenticate to a flash-based client. Therefore, a flash-based client must have an authentication server specified (unless the client will be running in kiosk mode). Specify 'RAP://x.x.x.x' where x.x.x.x is the IP address of the authentication server.
211	Base Code Server Protocol	Specifies the protocols used by the IBM Network Station when mounting the boot directory on the servers containing the boot file. Up to two protocols may be specified, separated by a blank. The first protocol is used with the server specified by option 66, and the second protocol is used with the server specified by option 219. If only one protocol is specified, it will be used with both servers (if both are specified). Specify 'LOCAL' as the first value to indicate a network station client should boot from flash.
212	Configuration Server IP	Specifies the IP addresses of the servers containing configuration data for the IBM Network Station. Up to two IP addresses may be specified; separated by one blank. The second server will be used as a backup to the first server.
213	Configuration Path	Specifies the directories containing the configuration data for the IBM Network Station. These directories reside on the servers specified in Option 212. Up to two directories may be specified; where the first directory resides on the first server in Option 212, and the second directory resides on the second server in Option 212. Directories should be separated by one blank.
214	Configuration Protocol	Specifies the protocols to use when mounting the directories on the servers specified in the Option 212. Up to two protocols may be specified, separated by a blank. The first protocol is used with the first server in Option 212, and the second protocol is used with the second server in Option 212.
219	Second Boot Host IP	Specifies the IP address of a backup boot server.

Server flash images

Flash images are stored on the server where they are created. The flash images are stored in the $UserBase/flash directory. Each flash image has its own directory underneath the flash directory. Each flash image directory has a ppc and an x86 directory. The ppc and x86 directories contain the flash image for each type of network station client. For example, an AS/400 server with two flash images (image1 and image2) has the following directories:

- /QIBM/UserData/NetworkStationV2/flash/Image1/ppc
- /QIBM/UserData/NetworkStationV2/flash/Image1/x86
- /QIBM/UserData/NetworkStationV2/flash/Image2/ppc
- /QIBM/UserData/NetworkStationV2/flash/Image1/x86

Configure the Network Station

Flash-based Network Stations must be configured to boot from flash first and over the network second. Complete the following steps:

1. Purchase and install a flash card in the IBM Network Station. See the book that came with your Network Station for information on how to install the flash card.
2. If you have a type 8363 or 8364 (Series 2200 or 2800) Network Station, use the NS Boot utility to do the following:
   a. On the **Configure Network Settings** menu, set **Boot File Source** to **Flash**.

      This field indicates if the Network Station should boot over the network or from a flash card. There are circumstances that can cause the Network Station to switch from flash boot to network boot even when the boot file source field is set to flash.
   b. On the **Change Boot File Server Settings** menu, set the **second Boot file server IP address** to the boot server on your network.

      The first boot file server IP address is ignored because the Network Station is booting from flash. If you do not configure a boot server, the flash image cannot be created or updated. You can set the third boot file server IP address to a backup boot server.
   c. On the **Change boot file server settings** menu, set the **firstBoot file server directory and file name** to `/kernel.<xxxx>` where `<xxxx>` is the appropriate Series number for your Network Station (2200 or 2800).

      The second and third boot file server directory and file names should match the appropriate directory boot server specified in the **Boot file server IP address** field.
   d. On the **Change boot file server settings** menu, set the **Boot file server protocol** to the appropriate protocol for your boot servers. When booting from flash, this protocol is ignored.
   e. On the **Change workstation configuration server settings** menu, set the **Workstation configuration server IP address** to the IP address of the server where the Network Station should obtain the workstation configuration information. If the flash image contains kiosk files, this field is ignored.
   f. On the **Change workstation configuration server settings** menu, set the **Workstation configuration server directory** to the appropriate server directory for configuration files. If the flash image contains kiosk files, this field should be set to `/termbase/profiles/`.
   g. On the **Change workstation configuration server settings** menu, set the **Workstation configuration server protocol** to the appropriate workstation server protocol. If the flash image contains kiosk files, set this field to Flash. Do **not** leave this field set to the default value (**Boot file server**).
   h. On the **Change authentication server settings** menu, set the **Authentication server IP address** to the IP address of the authentication server. You **must** specify an authentication server unless the flash image contains kiosk files.

Update the flash card

If the Network Station is configured to boot first from flash and second from the network, then the following events occur at power-on:

1. The Network Station attempts to locate the kernel file (kernel.<xxxx>) on the flash card. If the kernel file is not found on the flash card, the Network Station attempts to boot over the network. If the kernel file is found on the flash card, the Network Station continues to boot.
2. When the Network Station is booting from the flash card, the check for flash image updates (boot-flash-update) flag is tested on the secondary boot server. If the flag is set to yes, the flash image on the Network Station is compared to the flash image on the (secondary) boot server. If an update is required, the Network Station switches to boot from the network. This causes the Network Station to boot from the secondary boot server.
3. When the Network Station is booting from the network and a flash card is installed, the following apply:

- If the flash card is empty, the server flash image is written to the flash card. Then the Network Station automatically reboots from flash.
- If the flash card is not empty, the check for flash image updates (boot-flash-update) flag is tested on the secondary boot server. If the flag is set to yes, the flash image on the Network Station is compared to the flash image on the (secondary) boot server. If an update is required, the server flash image is written to the flash card. Then the Network Station automatically reboots from flash.

If errors are encountered while attempting to create or update the flash image, the Network Station continues to boot from the network until the operation is completed successfully.

Customization of flash images

The flash configuration utility was designed to allow system administrators to customize the flash image contents in two ways:

1. Files may be added and removed from flash images by editing the Bill Of Materials (BOM) files.
2. Custom applications may be defined and then added to flash images.

Editing bill of materials (BOM) files

BOM files are installed on the boot server and contain information about all files that were installed as part of the IBM Network Station Manager licensed program. BOM files are a very important part of flash image creation:

- BOM files are used to define which files will be part of the flash image.
- BOM files contain a list of all files that are shipped with the IBM Network Station Manager licensed program.
- There is a BOM file for each application that can be placed into a flash image. The BOM files reside in the $ProdBase directory.
- The format for the BOM file name is platform.application.BOM, where platform is either x86 (2200 and 2800) or ppc (300 and 1000), and application represents the application/software that will be installed on the flash card. The application names currently supported are:
  - Base_OS - base operating system
  - Netscape - Netscape Communicator
  - Emulation - 3270, 5250, and VT emulators
  - ICA_Client - ICA client
  - TCA_RemoteAppMgr - ICA Remote Application Manager
  - Java - Java
  - NFSPeerBoot - NFS Peer Boot support

The format of the BOM file is:

```
F T P -r-xr-xr-x 0 0             18 May 26 15:26:53 1999 x86/usr/bin/false
F T P -r-xr-xr-x 0 0          24832 Jun 18 17:00:47 1999 x86/usr/bin/find
F T P -r-xr-xr-x 0 0          98560 Jun 18 17:00:49 1999 x86/usr/bin/ftp
- T P -r-xr-xr-x 0 0          33024 Jun 18 17:30:42 1999 x86/usr/bin/gprof
- T P -r-xr-xr-x 0 0          69888 Jun 18 17:30:38 1999 x86/usr/bin/grep
```

Where the columns in the BOM file have the following meanings/usage:

- Column 1 F = In flash image, '-' = Not in flash image. X = Conditional (not if 128 bit files installed)
- Column 2 T = File is marked for service
- Column 3 P = prodbase, C = complete path
- Column 4 Permissions (Unix permissions)
- Column 5 Size
- Column 6 Month file last updated
- Column 7 Day of month file last updated

- Column 8 Time file last updated
- Column 9 Year file last updated
- Column 10 File name (path based on column 3)
- Column 11 Link information (-> soft link, => hard link)
- Column 12 Link file (name of associated link)

The first column is used to indicate if any given file will be written into the flash image (if the application represented by the BOM file is selected to be written into the flash image). The most common customization will be adding and removing files from the flash image by replacing 'F' with '-' (file will no longer be a part of the flash image), or replacing '-' with an 'F' (file will now become part of the flash image).

Making changes to the IBM BOM files

In order to make changes to a BOM file and have that change take effect in the flash-based clients, perform the following steps:

1. **Attention:** Make a backup copy of the BOM file that you are going to change. The BOM files reside in $ProdBase/.
2. Edit the BOM file. Toggle the first column to add or remove files from the flash image. If you need to add lines to the file, copy a line that is similar to the one that you are adding.
3. Use the IBM Network Station flash configuration utility to update the flash images which use the changed BOM file.
4. Reboot the flash-based Network Stations to load the flash image update.

Adding custom applications to flash images

In order to create user defined applications and add them to flash images, perform the following steps:

1. Create two BOM files for the custom application in the prodbase directory:
   - x86.customApplication.BOM
   - ppc.customApplication.BOM

   Where customApplication is any name that you want (prepended by x86. or ppc. and appended by .BOM). Both of these files must exist in $ProdBase even if one of the client platforms will not be used. These files can be identical, but both files must exist.

   Use the same format as the IBM BOM files:
   - Place an 'F' in the first column for items that go into the flash image.
   - Place a 'C' in the third column indicating the file name specifies a complete path.
   - Specify the complete path name in column 10. Custom applications should not reside in the $ProdBase directory (for example: /customApplication/file1).
2. Make a backup copy of your BOM files. Files in the $ProdBase directory are replaced when PTF's or new releases are applied to the server.
3. Add the custom application to the x86.customapps.lst and ppc.customapps.lst files. These files have the following format (same format as x86.applications.lst, but no date information at the top):
   ```
   APPLICATIONS
   Base  OS&REQUIRED&Base_OS.BOM&30201018
   Netscape&AVAILABLE&Netscape.BOM&19669793
   Emulators&AVAILABLE&Emulation.BOM&6232617
   ```

Where the following rules apply:

- `APPLICATIONS` must be the first line of the file.
- All fields are separated by an ampersand.
- The first field is the application name (displayed by utility)

- The second field indicates required or optional (available) applications
- The third field is the name of the BOM file (minus x86. or ppc.)
- The fourth field is size of the application (not enforced, just an attempt to help you figure out the size of the image)

Booting from a peer Network Station

A flash-based Network Station can act as a boot server by peforming the following steps:

1. Make sure that NFS Peer Boot was added to the flash-based Network Stations's flash image in the IBM Network Station Manager flash configuration utility. The flash-based Network Station must have the NFS peer boot in the flash image. Flash-based Network Stations with NFS peer boot installed automatically launch the NFS daemon when they boot.
2. Make sure that the flash-based Network Station is correctly configured. The flash-based Network Station must have a workstation configuration server specified unless the flash image contains kiosk files. See "Configure the Network Station" on page 27 for more information on configuring the flash-based Network Station.
3. Configure the other Network Stations are going to boot from the flash-based Network Station:
   - Set the IP address of the flash-based Network Station as the boot server.
   - Set the boot file name to `/kernel.<xxxx>`. Where `<xxxx>` is 2800, 2200, 1000, or 300.
   - Set the boot file server protocol to `NFS`.
   - If kiosk files are installed on the flash image:
     – Set the IP address of the flash-based Network Station as the workstation configuration server.
     – Set the workstation configuration server directory to `/termbase/profiles/`.
     – Set the workstation configuration protocol to `Flash`.

Flash boot example

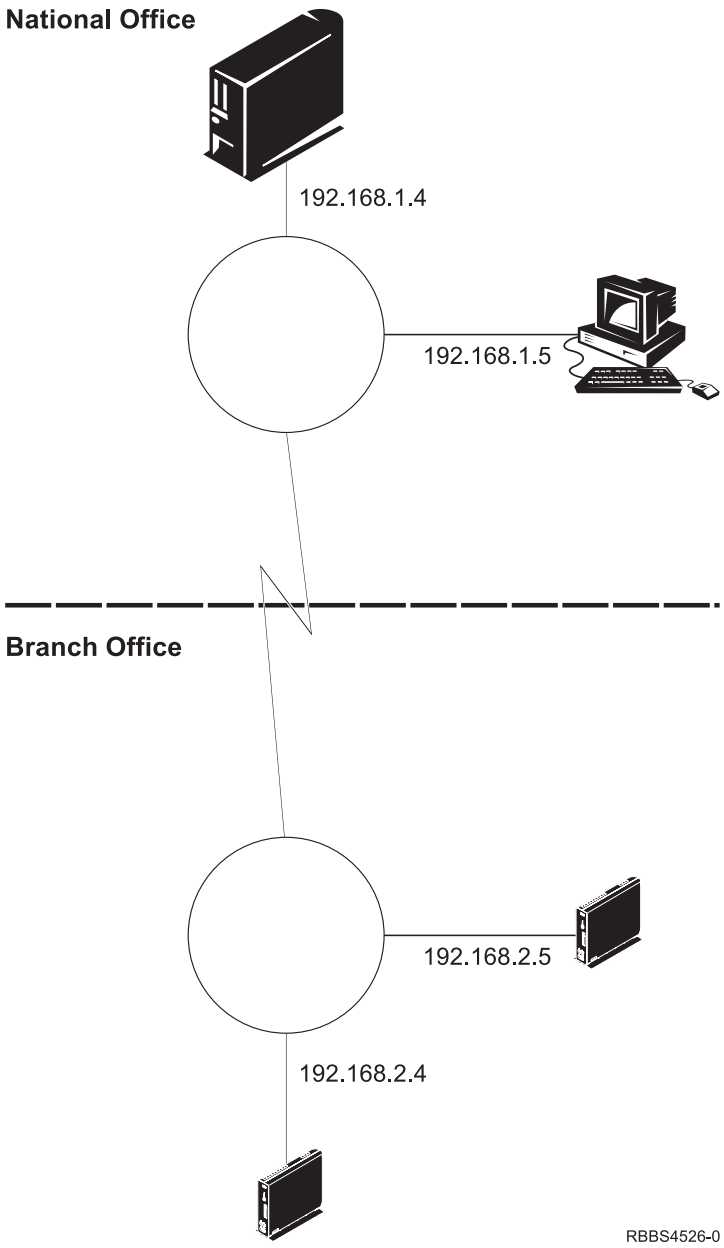


Figure 7. Flash boot example.

Figure 7 shows an example where the server roles of the Network Station environment are spread across a server and a Network Station that contains a flash card. There is one national office server and one or more branch offices with Network Stations that contain flash cards. The national office serves as the central point of control. The following table describes which services each server or Network Station provide.

Table 17. Services for Network Stations in Figure 7 on page 31.

	Server roles	**IP address**
National office	IBM Network Station Manager program server	192.168.1.4
	Workstation and user configuration server	192.168.1.4
	DHCP server	192.168.1.4
	DNS server	192.168.1.5
Branch office	Flash-based Network Station	192.168.2.4
	Other Network Station	192.168.2.5

In this example the base code server is the flash card in a Network Station at the branch office. Everything else is served by the headquarters server.

In this example a full installation of the IBM Network Station Manager licensed program is installed on the National office server (192.168.1.4).

Table 18 shows how DHCP is configured for 192.168.2.4.

Table 18. DHCP options for 192.168.2.4 (flash-based Network Station)

DHCP option	**Example**
66 Base code server	0.0.0.0
67 bootfile path	/kernel.2800
98 authentication server	RAP://192.168.1.4
211 base code server protocol	local tftp
212 workstation configuration server IP address	192.168.1.4
213 configuration files path for option 212	QIBM/UserData/NetworkStationV2/profiles/
214 protocol for option 212	rfs
219 secondary base code server	192.168.1.4

Table 19 shows how DHCP is configured for 192.168.2.5.

Table 19. DHCP options for 192.168.2.5 (other Network Station)

DHCP option	**Example**
66 Base code server	192.168.2.4
67 bootfile path	/kernel.2800
98 authentication server	RAP://192.168.1.4
211 base code server protocol	nfs
212 workstation configuration server IP address	192.168.1.4
213 configuration files path for option 212	QIBM/UserData/NetworkStationV2/profiles/
214 protocol for option 212	rfs

Chapter 6. Remote reboot using SNMP

It is possible to remotely reboot a Network Station using a simple network management protocol (SNMP) request:

1. Set the read/write community name using the IBM Network Station Manager program. The IBM Network Station Manager default value will not allow an SNMP set request to be performed.
2. Obtain an SNMP manager or SNMP MIB browser which allows you to issue an SNMP set command to the Network Station. For RS/6000 server platforms, the snmpinfo command can be used. For Windows NT platforms, Tivoli's IT Director (http://www.tivoli.com) or MG-Soft's MIB Browser (http://www.mg-soft.com/) can be used.
3. Obtain the Network Station MIB from the boot server at the following location and compile it using your MIB compiler.
   - $ProdBase/x86/usr/share/snmp/mibs/opengroupncmib-v1.mib″ - For version 1 MIB compilers
   - $ProdBase/x86/usr/share/snmp/mibs/opengroupncmib-v2.mib″ - For version 2 MIB compilers

   The same MIBs also exist in the ppc directory. Substitute ″ppc″ for ″x86″ in the above paths to locate them.
4. Issue an SNMP set to the following SNMP OID and set it to the value '5': ncSysStatusVitalState.0 (1.3.6.1.4.1.4396.1.2.3.2.0) - This object is of type integer.

RS/6000 server

To perform a remote reboot of your IBM Network Station from an RS/6000 server, follow these steps:

1. Verify that you have the SNMP function installed by running the following command:

   ```
   lspp -h bos.net.tcp.server
   ```

2. Place host names or IP addresses of the clients you wish to reboot into the **/usr/NetworkStationV2/bin/reboot_names** file.
3. Use the IBM Network Station Manager program (Hardware -> Workstation) to set the Read/Write Community Name.

   Note: If you are setting the Community Name for the first time, manually reboot your Network Station to make the remote reboot function take effect.
4. Once you have rebooted your Network Station to establish the Read/Write Community name, you may use the following command at your server to remotely reboot your IBM Network Station.

   ```
   /usr/NetworkStationV2/bin/nsreboot <community
   name>
   ```

Windows server

The MG-Soft MIB browser comes with a tool which allows SNMP sets to be issued from a command line (snmpping). This tool can be used in a DOS batch file to reboot a list of Network Stations. When used with scheduling software, the reboot batch file could be scheduled to reboot a set of Network Stations at a specific time.

Here is an example of how to reboot a Network Station using the MG-Soft 'snmpping' utility from a Window NT command prompt:

```
snmpping -c%1 -s1.3.6.1.4.1.4396.1.2.3.2.0 -mi5 %2
```

where %1 is the read/write community name set for the Network Station and %2 is the Network Station's IP address in dotted decimal format (DNS names are not allowed).

Chapter 7. IBM Network Station Manager command line utility

The IBM Network Station Manager command line utility is used to make changes to the IBM Network Station Manager download profiles. This utility:

- Is written in Java and requires Java Virtual Machine 1.1.6 or higher installed on the operating system where the utility is used.
- Requires the following authorities:
  - AS/400 - *SECADMIN and *ALLOBJ special authority required
  - Windows NT - Administrator authority required (use NSMAdmin)
  - RS/6000 - root user or read, write, and delete authority to all files in and below the $UserBase/profiles directory.
- Is located in the $ServBase/tools directory.

The command line utility can be run in one of two modes:

- NSM_CL - to start an interactive graphical user interface
- SGCL scriptfile.txt - to run a script program (see “Script file” on page 37 for more information on script files)

Several settings control how this utility operates. See “SGCL.ini” on page 38 for more information about run-time settings.

The command line utility must be run from the same server where the configuration preference files are stored. The AS/400 platform is an exception. The command line utility can be run from any supported platform client computer to any remote AS/400 server. The client computer must have access to the AS/400 file system where the configuration preference files are stored.

Only one instance of the command line utility should be run at a time. To minimize disruptions to users, the command line utility should be used after hours or at off peak times.

See the following sections for specific platform information:

- “AS/400 server”
- “Windows NT server” on page 36
- “RS/6000 server” on page 36
- “Windows-based client (AS/400 only)” on page 36
- “IBM Network Station client (AS/400 only)” on page 37

AS/400 server

The IBM Network Station command line utility runs on OS/400 V4R2 or later.

To run SGCL on the AS/400, do the following:

1. You must have Java installed. The following licensed program products must be installed:
   - 57xx-JC1 AS/400 Toolbox for Java
   - 57xx-JV1 AS/400 Developer Kit for Java
2. Set the current directory to the root of the AS/400 integrated file system. On the AS/400 command line type `cd /`.
3. Set the current directory to the command line utility directory. On the AS/400 command line type `cd '/QIBM/ProdData/NetworkStationV2/nsm/tools'`.
4. On the the AS/400 command line type `JAVA CLASS(com.ibm.nsm.cl.SGCL) PARM(scriptFile.txt) ClassPath('./ibmnsmcl.jar:./jt400.jar:./ibmxml.jar')`. Where scriptFile.txt is the name ar

5. The Java Shell Command Entry screen appears. After the Java Virtual Machine starts, the settings in SGCL.ini are listed. A message that the script file has started is displayed. A message that the script file has ended is displayed. Changes occur to download profiles only if COMMIT is in your script file. A log of activity is found at the location specified by the SGCL.ini settings PATH_TO_LOG and LOG_FILE_NAME.

Windows NT server

To run SGCL on a Windows NT server, do the following:

1. You must have Java Virtual Machine 1.1.6 or later installed. The Java Runtime Environment is available at http://java.sun.com/products/index.html.
2. Make the $ServBase/tools directory the current directory. For example:`c:\NetworkStationV2\servbase\tools`.
3. On the the command line type
   `jre -cp <path1>\rt.jar;<path2>\ibmnsmcl.jar;<path2>\jt400.jar;<path2>\ibmxml.jar com.ibm.nsm.cl.SGCL scriptFile.txt`. Where:
   - jre is the command to call the Java Runtime Environment
   - <path1> is the path to the Java Runtime Environment rt.jar file
   - <path2> is the path to the IBM Network Station command line utility .jar files
   - scriptFile.txt is the name and path of a script file that you want to run
4. The settings in SGCL.ini are listed. A message that the script file has started is displayed. A message that the script file has ended is displayed. Changes occur to download profiles only if COMMIT is in your script file. A log of activity is found at the location specified by the SGCL.ini settings PATH_TO_LOG and LOG_FILE_NAME.

RS/6000 server

To run SGCL on an RS/6000 system, do the following:

1. You must have Java Virtual Machine 1.1.6 or later installed. The Java Runtime Environment is available on your AIX install CD.
2. Make the $ServBase/tools directory the current directory. For example, `/usr/NetworkStationV2/servbase/tools`.
3. On the the command line type
   `jre -cp <path1>/classes.zip:<path2>/ibmnsmcl.jar:<path2>/jt400.jar:<path2>/ibmxml.jar com.ibm.nsm.cl.SGCL scriptFile.txt`. Where:
   - jre is the command to call the Java Runtime Environment
   - <path1> is the path to the Java Runtime Environment classes.zip file (/usr/jdk_base/lib/)
   - <path2> is the path to the IBM Network Station .jar files
   - scriptFile.txt is the name and path of a script file that you want to run
4. The settings in SGCL.ini are listed. A message that the script file has started is displayed. A message that the script file has ended is displayed. Changes occur to download profiles only if COMMIT is in your script file. A log of activity is found at the location specified by the SGCL.ini settings PATH_TO_LOG and LOG_FILE_NAME.

Windows-based client (AS/400 only)

To run NSM_CL on a Windows-based computer, do the following:

1. You must have Java Virtual Machine 1.1.6 or later installed. The Java Runtime Environment is available at http://java.sun.com/products/index.html.
2. Make the $ServBase/tools directory the current directory. For example, `g:\ProdData\NetworkStationV2\nsm\tools`.

3. On the the command line type
   `jre -cp <path1>\rt.jar;<path2>\ibmnsmcl.jar;<path2>\jt400.jar;<path2>\ibmxml.jar com.ibm.nsm.cl.NSM_CL`. Where:
   - jre is the command to call the Java Runtime Environment
   - <path1> is the path to the Java Runtime Environment rt.jar file.
   - <path2> is the path to the IBM Network Station command line utility .jar files
4. The IBM NetworkStation Manager command line utility GUI is displayed.

IBM Network Station client (AS/400 only)

To run NSM_CL on an IBM Network Station, do the following:

1. Set the file system mount point for the command line utility user. Using the IBM Network Station Manager program, do the following:
   a. Set the preference level to **User** and select the user name. You can select **Return** to set the preference level.
   b. Click **Environment**, then click **Network**.
   c. Under **Additional mount points:**, set **Mount type** to `rfs`, set **Mount point** to `/QIBM`, and set **Local mount point** to `/tmp/QIBM`.
   d. Click **Save**.
2. Logon the Network Station. If the Network Station is already logged on, you need to log off and then logon to see the new mount point.
3. From the Advanced Diagnostics command line type `cd /`.
4. Type `cd tmp`.
5. Type `ls -al` to see the new mount point.
6. Type `cd /QIBM/ProdData/NetworkStationV2/nsm/tools` to make the tools directory the current directory.
7. Type `echo $CLASSPATH` to make sure that java (/usr/local/java/J118/lib/classes.zip) and the current directory (.)are included in the classpath.
8. Type `export CLASSPATH= $CLASSPATH:ibmnsmcl.jar:ibmxml.jar:jt400.jar` to add the command line utility files to the classpath.
9. Type `java com.ibm.nsm.cl.NSM_CL` to start the command line GUI.

Script file

A script file is a file that contains IBM Network Station Manager command line utility commands. Only one command may appear on each line. Each command must be completely contained on one line. Script files may also include comments. Any line starting with `//` is considered a comment and is ignored. See “Commands” on page 39 for information on commands.

All commands including `call` can appear in script files. Any number of call commands can appear in a script file and each call has the effect of adding all the commands in the called file to the calling file at the point in the calling file where the `call` command is located.

Attention: Using call has the potential of creating recursive calls. Recursive calls may put the system into an infinite loop.

The following example demonstrates the use of script files:

```
// begin demo.bp
// a call to run demo_insert.bp, changes or creates many NSM preferences
call demo_insert.bp
// a call to run demo_select.bp, prints out values that demo_insert.bp changed
call demo_select.bp
// end demo.bp


// begin demo_insert.bp
// this changes everyone in dept 10 to a left handed mouse
insert ibmnsm/user/list dept10.lst/workstation/pref-mouse-arrangement/ left-handed
// mary and karl are right handed
insert ibmnsm/user/mary/workstation/pref-mouse-arrangement/ right-handed
insert ibmnsm/user/karl/workstation/pref-mouse-arrangement/ right-handed
// changes are only written to disk with a commit command
COMMIT
// end demo_insert.bp

// begin demo_select.bp
// view our work
select ibmnsm/user/list dept10.lst/workstation/pref-mouse-arrangement/
// end demo_select.bp

// begin dept10.lst
// a list of all user names in dept10
ivan
mary
ching
joe
barry
karl
brenda
// end dept10.lst
```

SGCL.ini

When SGCL is started from the operating system command line or when the NSMCL GUI starts, a file named SGCL.ini is read. SGCL.ini must be in the same directory where the command line utiliy .jar files are located.

The following list describes some of the values that you may want to customize in SGCL.ini. All of these values may also be set in script files using the SET command.

PATH_TO_PROFILES
: This value is the path to the $UserBase/profiles directory on the target server.

TARGET_OS
: This value is either AS400, AIX, WIN_NT, or TEST. AS400 means that the target operating system is OS/400. AIX means that the target operating system is AIX. WIN_NT means that the target operating system is Windows NT. TEST means that local files are written for testing purposes (file authorities are not set).

TARGET_NAME
: This value is the host name of the computer where the IBM Network Station configuration is located. Each time that a new TARGET_NAME is specified, a new server object is created. PATH_TO_PROFILES and TARGET_OS (if needed) must be changed before TARGET_NAME.

PATH_TO_SCRIPTS
: This value is the path to the directory where script files are located. This value is used when there is no path specified in the script file names.

PATH_TO_LOG
: This value is the name of the path where the log file is placed. The default is the current directory.

LOG_FILE_NAME
This value is the name of the log file. The default is SGCL-log.txt.

LOG_MODE
This value is either FILE, STREAM, or BOTH. FILE means log to the log file. STREAM means log to the screen (ignored if running from the command line). BOTH means log to the log file and to the screen. The default is BOTH.

LOG_APPEND
This value is either true or false. A value of true adds to the existing log file. A value of false replaces the existing log file at program start-up. The default value is true.

SELECT_FILE_NAME
This value is either LOG or the name of the path and name of the select file. LOG means send the select command output to the log file (specified in LOG_FILE_NAME). A file name or file name and path means send the select command output to the specified file.

SELECT_APPEND
This value is either true or false. A value of true adds to the existing select file. A value of false replaces the existing select file. The default value is true. If SELECT_FILE_NAME=LOG, then SELECT_APPEND is ignored.

TIME_IN_SELECTS
This value is either true or false. A value of true means the timestamp is placed before each result in the select file. A value of false means a timestamp is not placed in the select file. When selects are sent to the log file, a timestamp always appears. The default value is true.

CONTINUE_ON_ERROR
This value is either true or false. A value of true means processing continues when errors are found. A file not found error always stops processing. A value of false stops processing on the first error. The default value is true.

DEFAULT _USER
This value is the name of the current user. DEFAULT_USER can be set to some IBM Network Station Manager user name. DEFAULT _USER can then be used in the name field of any command. For example, `SELECT IBMNSM/USER/DEFAULT_USER/WORKSTATION/ALL/`.

DEFAULT_WORKSTATION
This value is the name of the current workstation. DEFAULT_WORKSTATION can be set to some IBM Network Station Manager workstation name. DEFAULT _WORKSTATION can then be used in the name field of any command. For example, `SELECT IBMNSM/WORKSTATION/DEFAULT_WORKSTATION/WORKSTATION/ALL/`.

DEFAULT_USER_GROUP
This value is the name of the current usergroup. DEFAULT_USER_GROUP can be set to some IBM Network Station Manager usergroup name. DEFAULT _USER_GROUP can then be used in the name field of any command. For example, `SELECT IBMNSM/USERGROUP/DEFAULT_USER_GROUP/WORKSTATION/ALL/`.

Commands

This section describes the purpose, format, parameters, and at least one example of each command. Commands and keywords can be entered in upper or lowercase. Variable names are shown in italics and are case sensitive. All command lines are checked for syntax before they are run. Errors are returned for syntax errors in commands and parameters. All commands can run:

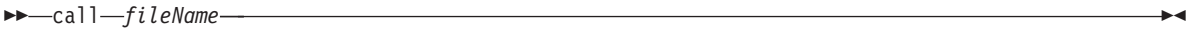
- From the GUI interface command line
- When included in script files
- When they appear as a parameter after `java SGCL` on the operating system command line (unless otherwise noted)

CALL

Purpose

Runs script files. See “Script file” on page 37 for more information about script files.

Format



Parameters

fileName

Specifies the name of the script file. If the parameter contains any / or \ characters, then the parameter is assumed to contain the complete path to the file. If the paramter is a file name only, then it is appended to the PATH_TO_SCRIPTS value in the SGCL.ini file. See “Script file” on page 37 for more information about script files. See “SGCL.ini” on page 38 for more information about the SGCL.ini file.

Example

```
call demo1.bp
```

COMMIT

Purpose

Writes all pending (since last commit) changes to disk.

Format

Parameters

None.

Example

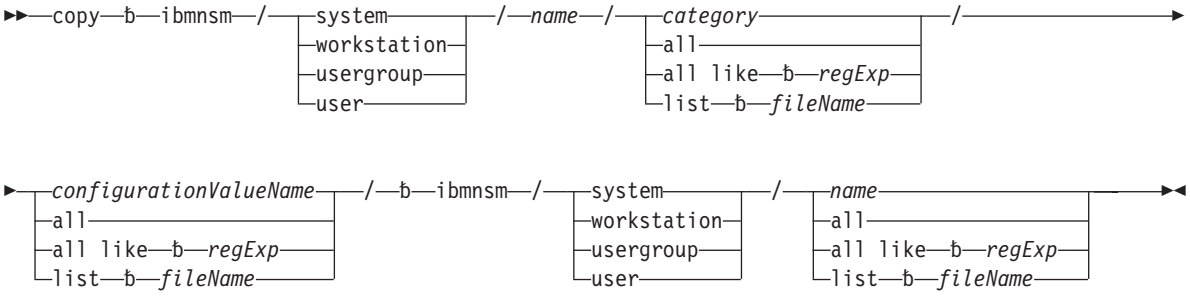
```
COMMIT
```

COPY

Purpose

Copies existing configuration values.

Format



Parameters

b A blank or space.

ibmnsm
Specifies the object. `ibmnsm` must be specified.

system
Specifies IBM Network Station Manager system-wide preferences. When the system parameter is specified, the *name* parameter is ignored.

workstation
Specifies a workstation's preferences. The *name* parameter must equal an IBM Network Station Manager defined workstation name.

usergroup
Specifies a usergroup's preferences. The *name* parameter must equal an IBM Network Station Manager defined group name.

user Specifies a user's preferences. The *name* parameter must equal an IBM Network Station Manager defined user name.

name Specifies the name of the workstation, usergroup, or user. A name of DEFAULT_USER, DEFAULT_WORKSTATION, or DEFAULT_USER_GROUP passes the current value of that setting.

all Specifies all values.

all like
Specifies a subset of existing values that match a pattern specified in the *regExp* parameter.

regExp
Specifies a pattern using letters, numbers, and wild card characters. Wildcard usage is in UNIX regular expression notation. See "Appendix E. Regular expression notation" on page 173 for more information on regular expressions.

list Specifies a list of values that are contained in the file that is specified in the *fileName* parameter.

fileName
Specifies the name of a file that contains a list of values. The file must contain one value per line. If fileName contains any / or \ characters, then it is assumed to be a complete path and file name. Otherwise fileName is added to the PATH_TO_SCRIPTS value.

category
Specifies the name of the category. See "Appendix D. Configuration values" on page 87 for a list of categories.

configurationValueName
Specifies the name of the configuration value to update. See "Appendix D. Configuration values" on page 87 for a list of configuration value names.

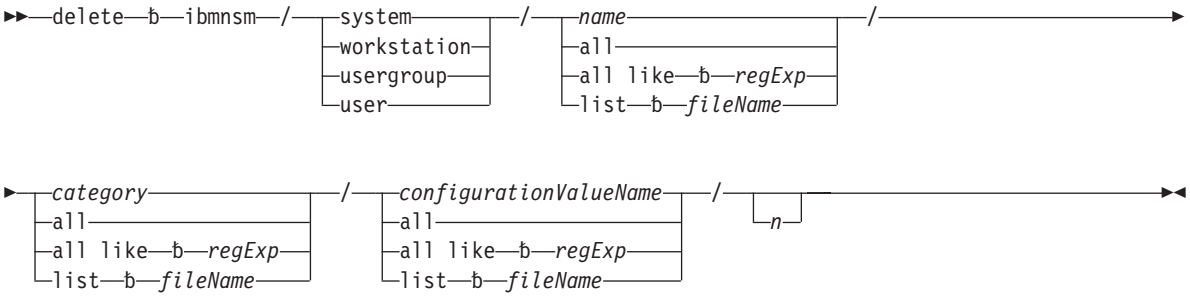
Example

```
//Give everybody the same mouse setting as Joe
copy ibmnsm/user/joe/workstation/pref-mouse-arrangement ibmnsm/user/all
```

DELETE

Purpose
Removes existing configuration values.

Format



Parameters

ƀ A blank or space.

ibmnsm
Specifies the object. `ibmnsm` must be specified.

system
Specifies IBM Network Station Manager system-wide preferences. When the system parameter is specified, the *name* parameter is ignored.

workstation
Specifies a workstation's preferences. The *name* parameter must equal an IBM Network Station Manager defined workstation name.

usergroup
Specifies a usergroup's preferences. The *name* parameter must equal an IBM Network Station Manager defined group name.

user Specifies a user's preferences. The *name* parameter must equal an IBM Network Station Manager defined user name.

name Specifies the name of the workstation, usergroup, or user. A name of DEFAULT_USER, DEFAULT_WORKSTATION, or DEFAULT_USER_GROUP passes the current value of that setting.

all Specifies all values.

all like
Specifies a subset of existing values that match a pattern specified in the *regExp* parameter.

regExp
Specifies a pattern using letters, numbers, and wild card characters. Wildcard usage is in UNIX regular expression notation. See "Appendix E. Regular expression notation" on page 173 for more information on regular expressions.

list Specifies a list of values that are contained in the file that is specified in the *fileName* parameter.

fileName
Specifies the name of a file that contains a list of values. The file must contain one value per line. If fileName contains any / or \ characters, then it is assumed to be a complete path and file name. Otherwise fileName is added to the PATH_TO_SCRIPTS value.

category
Specifies the name of the category. See "Appendix D. Configuration values" on page 87 for a list of categories.

configurationValueName
Specifies the name of the configuration value to update. See “Appendix D. Configuration values” on page 87 for a list of configuration value names.

n Specifies the position in the list. Use the select command to view currently configured items and determine the list position.

Examples

```
// removes Joe's pref-mouse-arrangement
delete ibmnsm/user/joe/workstation/pref-mouse-arrangement/
// removes all values from list
delete ibmnsm/workstation/machine1/devices/print-lpr-servers/
// removes only the first value from the list
delete ibmnsm/workstation/machine1/devices/print-lpr-servers/ 1
// resets all values to the shipped values
delete ibmnsm/system/all/all/all
delete ibmnsm/workstation/all/all/all
delete ibmnsm/usergroup/all/all/all
delete ibmnsm/user/all/all/all
```

EXEC

Purpose

Passes one operating system command to the operating system. You must have the correct authority for the command and the command must be accessible. The following SGCL.ini settings must be set correctly:

- TARGET_OS
- TARGET_NAME

OS/400 commands can be run on a local AS/400 or any remotely attached AS/400s. OS/400 commands may also be run from any AS/400 attached client. Windows NT and AIX commands are limited to running on the server where command line utility is running.

Format

Parameters

command
Specifies an operating system command and associated parameters.

Example

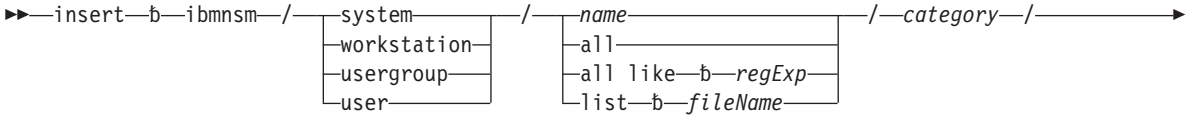
```
EXEC CRTUSRPRF USRPRF(XUSRA1) USRCLS(*SYSOPR) MAXSTG(*NOMAX)
```

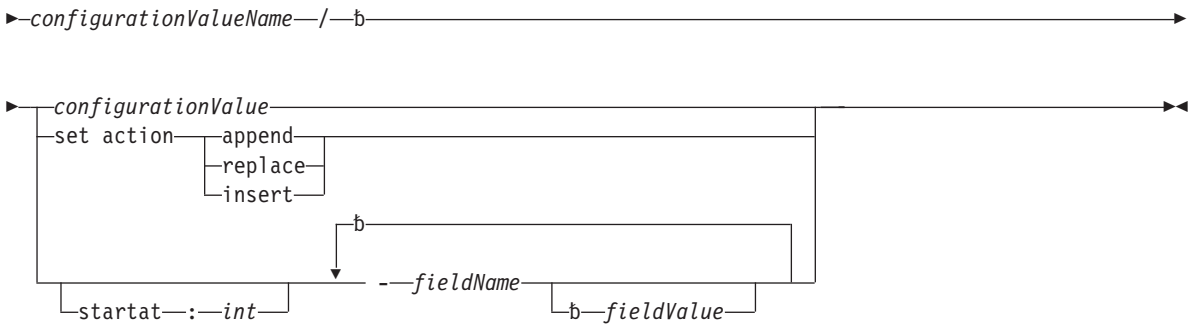
INSERT

Purpose

Creates new or changes existing configuration values.

Format





Parameters

b A blank or space.

ibmnsm
Specifies the object. `ibmnsm` must be specified.

system
Specifies IBM Network Station Manager system-wide preferences. When the system parameter is specified, the *name* parameter is ignored.

workstation
Specifies a workstation's preferences. The *name* parameter is an IBM Network Station Manager workstation name.

usergroup
Specifies a usergroup's preferences. The *name* parameter is an IBM Network Station Manager group name.

user Specifies a user's preferences. The *name* parameter must equal an IBM Network Station Manager defined user name.

name Specifies the name of the workstation, usergroup, or user. The user or usergroup name must already be defined on the server that is named in TARGET_NAME. See "SGCL.ini" on page 38 for more information about how to specify TARGET_NAME. A name of DEFAULT_USER, DEFAULT_WORKSTATION, or DEFAULT_USER_GROUP passes the current value of that setting.

all Specifies all values.

all like
Specifies a subset of existing values that match a pattern specified in the *regExp* parameter.

regExp
Specifies a pattern using letters, numbers, and wild card characters. Wildcard usage is in UNIX regular expression notation. See "Appendix E. Regular expression notation" on page 173 for more information on regular expressions.

list Specifies a list of values that are contained in the file that is specified in the *fileName* parameter.

fileName
Specifies the name of a file that contains a list of values. The file must contain one value per line. If fileName contains any / or \ characters, then it is assumed to be a complete path and file name. Otherwise fileName is added to the PATH_TO_SCRIPTS value.

category
Specifies the name of the category. See "Appendix D. Configuration values" on page 87 for a list of categories.

configurationValueName
Specifies the name of the configuration value to record. See “Appendix D. Configuration values” on page 87 for a list of configuration value names.

configurationValue
Specifies the actual value to record. See “Appendix D. Configuration values” on page 87 for a list of configuration values.

set action
Specifies an action for fieldNames and fieldValues. Used with the serial-interfaces-table and serial-daemons-table values.

append
Specifies that the values are appended to exisiting values (additive).

replace
Specifies that the values replace exisiting values (overrides values at other levels).

insert Specifies that the values are inserted into exisiting values (additive, but orderable).

start at
Specifies that values should be inserted starting at the relative position specified in the *int* value. Only used for serial-interfaces-table and serial-daemons-table.

int Specifies the relative position to insert the value. Only used for serial-interfaces-table and serial-daemons-table.

fieldName
Specifies the name of the field to record. See “Appendix D. Configuration values” on page 87 for a list of field names. Field names always start with a ’-’.

fieldValue
Specifies the actual value to record. See “Appendix D. Configuration values” on page 87 for a list of field values.

Examples

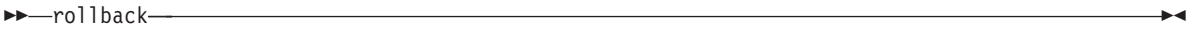
```
// Start simple example
insert ibmnsm/user/joe/workstation/pref-mouse-arrangement/ left-handed
// End simple example

// Start print-lpr-servers list example
// Note: The text for this insert command is shown on multiple lines for clarity.
//       To work correctly, the command must be contained on one line.
INSERT IBMNSM/workstation/LIST mycompany_machines.lst/DEVICE/print-lpr-servers/
-server local -queue-name nil -datastream-type ps -description small printer
-transform-file nil -dbcs-type nil -print-resolution nil -dbcs-font-encoding nil
-request-banner-page false -use-as-default true
// End print-lpr-servers list example

// Start print-lpr-servers insert list example
INSERT IBMNSM/WORKSTATION/machine1/DEVICE/print-lpr-servers/ SET ACTION APPEND
// After this command there will be no print-lpr-servers defined for
// WORKSTATION/machine1. When values are added to the print-lpr-servers list (in
// WORKSTATION/machine1) then both those values and the values defined in
// SYSTEM/DEF/DEVICE/print-lpr-servers (the next lower level) will be part of the
// configuration for machine1.
// Note: The text for these insert commands are shown on multiple lines for clarity.
//      To work correctly, the commands must be contained on one line.
INSERT IBMNSM/SYSTEM/DEFAULTS/DEVICE/serial-daemons-table/ SET ACTION INSERT
INSERT IBMNSM/SYSTEM/DEFAULTS/DEVICE/serial-daemons-table/
    STARTAT:2 -port-number 1 -use-serial-protocol true -tcp-port 1050
INSERT IBMNSM/SYSTEM/DEFAULTS/DEVICE/serial-daemons-table/
    STARTAT:3 -port-number 2 -use-serial-protocol true -tcp-port 1051
INSERT IBMNSM/SYSTEM/DEFAULTS/DEVICE/serial-daemons-table/
  STARTAT:1 -port-number 3 -use-serial-protocol true -tcp-port 1052
// End print-lpr-servers insert list example
```

ROLLBACK

Purpose

Discards all pending (since last commit) changes.

Format



Parameters

None.

Example

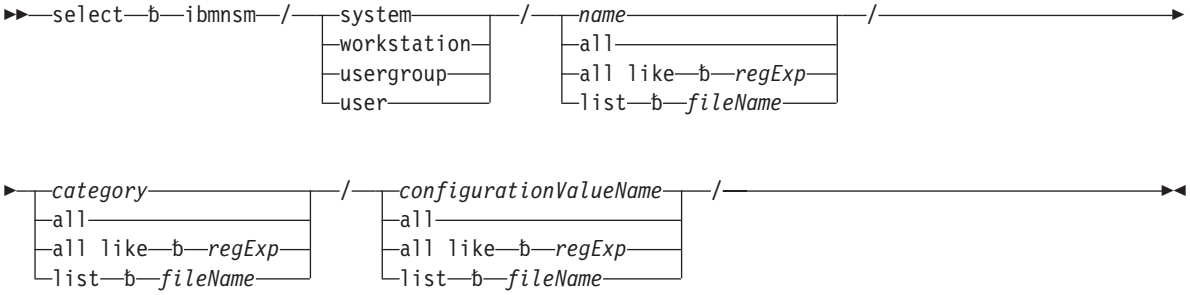
```
rollback
```

SELECT

Purpose

Returns existing configuration values. For information on output processing see “SGCL.ini” on page 38.

Format



Parameters

b A blank or space.

ibmnsm

Specifies the object. `ibmnsm` must be specified.

system

Specifies IBM Network Station Manager system-wide preferences. When the system parameter is specified, the *name* parameter is ignored.

workstation

Specifies a workstation’s preferences. The *name* parameter must equal an IBM Network Station Manager defined workstation name.

usergroup

Specifies a usergroup’s preferences. The *name* parameter must equal an IBM Network Station Manager defined group name.

user Specifies a user’s preferences. The *name* parameter must equal an IBM Network Station Manager defined user name.

name Specifies the name of the workstation, usergroup, or user. A name of DEFAULT_USER, DEFAULT_WORKSTATION, or DEFAULT_USER_GROUP passes the current value of that setting.

all Specifies all values.

all like
Specifies a subset of existing values that match a pattern specified in the *regExp* parameter.

regExp
Specifies a pattern using letters, numbers, and wild card characters. Wildcard usage is in UNIX regular expression notation. See “Appendix E. Regular expression notation” on page 173 for more information on regular expressions.

list Specifies a list of values that are contained in the file that is specified in the *fileName* parameter.

fileName
Specifies the name of a file that contains a list of values. The file must contain one value per line. If fileName contains any / or \ characters, then it is assumed to be a complete path and file name. Otherwise fileName is added to the PATH_TO_SCRIPTS value.

category
Specifies the name of the category. See “Appendix D. Configuration values” on page 87 for a list of categories.

configurationValueName
Specifies the name of the configuration value to update. See “Appendix D. Configuration values” on page 87 for a list of configuration value names.

Examples

```
// Set Joes's mouse to be left-handed
insert ibmnsm/user/joe/workstation/pref-mouse-arrangement/ left-handed
// Check to see if Joes's mouse is left handed
select ibmnsm/user/joe/workstation/pref-mouse-arrangement/
```

The following line is returned to the GUI or the log:

```
Thu - Sep 2 1999 08.42.11.313 - IBMNSM/USER/joe/WORKSTATION/pref-mouse-arrangement/ = left-handed
```

```
// Display all system settings
select ibmnsm/system/all/all/all/
```

Data that is similar to the information below is returned to the GUI or the log:

```
Thu - Sep 2 1999 09.38.35.980 - IBMNSM/SYSTEM/DEFAULT/DEVICE/serial-access-control-enabled/ = true
Thu - Sep 2 1999 09.38.35.980 - IBMNSM/SYSTEM/DEFAULT/DEVICE/serial-access-control-list/ =
{ -host localhost }
{ -host system1 }
{ -host system2 }
Thu - Sep 2 1999 09.38.36.420 - IBMNSM/SYSTEM/DEFAULT/DEVICE/serial-daemons-table/ =
{ -port-number 1 -use-serial-protocol false -tcp-port 87 }
{ -port-number 2 -use-serial-protocol false -tcp-port 5962 }
{ -port-number 3 -use-serial-protocol   -tcp-port }
Thu - Sep 2 1999 09.38.37.140 - IBMNSM/SYSTEM/DEFAULT/DESKTOP/show_logout_button/ = yes
Thu - Sep 2 1999 09.38.37.140 - IBMNSM/SYSTEM/DEFAULT/DESKTOP/current_theme/ = plum
Thu - Sep 2 1999 09.38.37.140 - IBMNSM/SYSTEM/DEFAULT/DESKTOP/icon_placement/ = 0
Thu - Sep 2 1999 09.38.37.140 - IBMNSM/SYSTEM/DEFAULT/DESKTOP/winmgr_font_size/ = 10
Thu - Sep 2 1999 09.38.38.070 - IBMNSM/SYSTEM/DEFAULT/NS5250/NS5250*KeyRemap/ = disable
Thu - Sep 2 1999 09.38.38.070 - IBMNSM/SYSTEM/DEFAULT/NS5250/NS5250*KeymapPath/ = 0
Thu - Sep 2 1999 09.38.38.070 - IBMNSM/SYSTEM/DEFAULT/NS5250/NS5250*ColorMap/ = basic
Thu - Sep 2 1999 09.38.38.070 - IBMNSM/SYSTEM/DEFAULT/NS5250/NS5250*ColorMapPath/ = 0
Thu - Sep 2 1999 09.38.38.070 - IBMNSM/SYSTEM/DEFAULT/NS5250/NS5250*DefaultColorMapPath/ = 0
Thu - Sep 2 1999 09.38.38.070 - IBMNSM/SYSTEM/DEFAULT/NS5250/NS5250*PlayBack/ = enable
Thu - Sep 2 1999 09.38.38.290 - IBMNSM/SYSTEM/DEFAULT/NS5250/NS5250*PlayBackPath/ = 0
Thu - Sep 2 1999 09.38.38.290 - IBMNSM/SYSTEM/DEFAULT/NS5250/NS5250*KeyPad/ = enable
Thu - Sep 2 1999 09.38.38.290 - IBMNSM/SYSTEM/DEFAULT/NS5250/NS5250*Command/ = enable
Thu - Sep 2 1999 09.38.38.290 - IBMNSM/SYSTEM/DEFAULT/NS5250/NS5250*Option/ = enable
Thu - Sep 2 1999 09.38.38.290 - IBMNSM/SYSTEM/DEFAULT/NS5250/NS5250*Help/ = enable
Thu - Sep 2 1999 09.38.38.290 - IBMNSM/SYSTEM/DEFAULT/NS5250/NS5250*MiscPref/ = enable
Thu - Sep 2 1999 09.38.38.290 - IBMNSM/SYSTEM/DEFAULT/NS5250/NS5250*ChangeIPAddress/ = enable
```

```
Thu - Sep 2 1999 09.38.38.290 - IBMNSM/SYSTEM/DEFAULT/NS5250/NS5250*Edit/ = enable
Thu - Sep 2 1999 09.38.38.290 - IBMNSM/SYSTEM/DEFAULT/NS5250/NS5250*LocalPrint/ = enable
Thu - Sep 2 1999 09.38.38.290 - IBMNSM/SYSTEM/DEFAULT/NS5250/NS5250*Control/ = enable
Thu - Sep 2 1999 09.38.38.290 - IBMNSM/SYSTEM/DEFAULT/NS5250/NS5250*FontMenu/ = enable
Thu - Sep 2 1999 09.38.38.730 - IBMNSM/SYSTEM/DEFAULT/NS5250/NS5250*ColumnSeparator/ = disable
Thu - Sep 2 1999 09.38.38.730 - IBMNSM/SYSTEM/DEFAULT/NS5250/NS5250*27x132/ = enable
Thu - Sep 2 1999 09.38.38.730 - IBMNSM/SYSTEM/DEFAULT/NS5250/NS5250*ImageView/ = disable
Thu - Sep 2 1999 09.38.40.270 - IBMNSM/SYSTEM/DEFAULT/NETSCAPE/lockPref.network.proxy.type/ = 1
Thu - Sep 2 1999 09.38.40.430 - IBMNSM/SYSTEM/DEFAULT/ENVVARS/TRACE/ = ON
Thu - Sep 2 1999 09.38.40.820 - IBMNSM/SYSTEM/DEFAULT/ENVVARS/RUNWM/ = YES
Thu - Sep 2 1999 09.38.40.820 - IBMNSM/SYSTEM/DEFAULT/ENVVARS/TZ/ = CST
Thu - Sep 2 1999 09.38.41.040 - IBMNSM/SYSTEM/DEFAULT/INTERNET/FTP_PROXY_HOST/ = proxy.ibm.com
Thu - Sep 2 1999 09.38.41.040 - IBMNSM/SYSTEM/DEFAULT/INTERNET/FTP_PROXY_PORT/ = 80
Thu - Sep 2 1999 09.38.41.040 - IBMNSM/SYSTEM/DEFAULT/INTERNET/HTTP_PROXY_PORT/ = 0
Thu - Sep 2 1999 09.38.41.040 - IBMNSM/SYSTEM/DEFAULT/INTERNET/GOPHER_PROXY_HOST/ = proxy.ibm.com
Thu - Sep 2 1999 09.38.41.040 - IBMNSM/SYSTEM/DEFAULT/INTERNET/GOPHER_PROXY_PORT/ = 80
Thu - Sep 2 1999 09.38.41.040 - IBMNSM/SYSTEM/DEFAULT/INTERNET/NSM_HTTP_PORT/ = 80
Thu - Sep 2 1999 09.38.41.420 - IBMNSM/SYSTEM/DEFAULT/INTERNET/HOME_PAGE/ = http://www.ibm.com
Thu - Sep 2 1999 09.38.41.420 - IBMNSM/SYSTEM/DEFAULT/INTERNET/HTTPS_PROXY_PORT/ = 0
Thu - Sep 2 1999 09.38.41.420 - IBMNSM/SYSTEM/DEFAULT/INTERNET/SOCKS_PORT/ = 0
Thu - Sep 2 1999 09.38.41.800 - IBMNSM/SYSTEM/DEFAULT/USERGROUP/admin/ = cgrp
Thu - Sep 2 1999 09.38.41.860 - Command completed: select ibmnsm/system/all/all/all/
```

SET

Purpose

Temporarily sets any value in the SGCL.ini file. Changes are not made to the SGCL.ini file. This command can be used on the interactive GUI command line or in a script file. Changed values exist until they are set again or the program exits. See “SGCL.ini” on page 38 for more information about the SGCL.ini file. Type SET without any parameters to list the current settings in the log.

The following commands must be used in the following order when used in scripts:

1. SET PATH_TO_PROFILES
2. SET TARGET_OS
3. SET TARGET_NAME

Format

Parameters

valueName
See“SGCL.ini” on page 38 for more information about the SGCL.ini file

value See“SGCL.ini” on page 38 for more information about the SGCL.ini file

Example

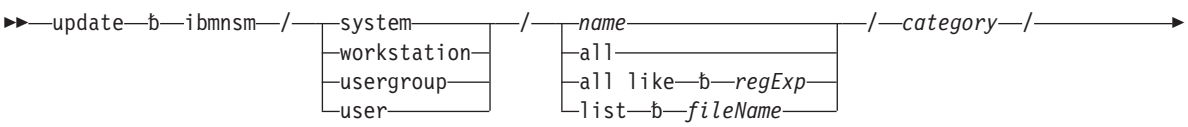
```
set TARGET_NAME=SYSTEM1
```

UPDATE

Purpose

Changes existing configuration values.

Format



►—*configurationValueName*—/—ƀ—*configurationValue*—————————————————————————►◄

Parameters

ƀ A blank or space.

ibmnsm
Specifies the object. `ibmnsm` must be specified.

system
Specifies IBM Network Station Manager system-wide preferences. When the SYSTEM parameter is specified, the *name* parameter is ignored.

workstation
Specifies a workstation's preferences. The *name* parameter must equal an IBM Network Station Manager defined workstation name.

usergroup
Specifies a usergroup's preferences. The *name* parameter must equal an IBM Network Station Manager defined group name.

user Specifies a user's preferences. The *name* parameter must equal an IBM Network Station Manager defined user name.

name Specifies the name of the workstation, usergroup, or user. A name of DEFAULT_USER, DEFAULT_WORKSTATION, or DEFAULT_USER_GROUP passes the current value of that setting.

all Specifies all values.

all like
Specifies a subset of existing values that match a pattern specified in the *regExp* parameter.

regExp
Specifies a pattern using letters, numbers, and wild card characters. Wildcard usage is in UNIX regular expression notation. See "Appendix E. Regular expression notation" on page 173 for more information on regular expressions.

list Specifies a list of values that are contained in the file that is specified in the *fileName* parameter.

fileName
Specifies the name of a file that contains a list of values. The file must contain one value per line. If fileName contains any / or \ characters, then it is assumed to be a complete path and file name. Otherwise fileName is added to the PATH_TO_SCRIPTS value.

category
Specifies the name of the category. See "Appendix D. Configuration values" on page 87 for a list of categories.

configurationValueName
Specifies the name of the configuration value to record. See "Appendix D. Configuration values" on page 87 for a list of configuration value names.

configurationValue
Specifies the actual value to record. See "Appendix D. Configuration values" on page 87 for a list of configuration values.

Examples

```
// update Joe's mouse to be left-handed
update ibmnsm/user/joe/workstation/pref-mouse-arrangement/ left-handed
// update all users that are listed in the lefty.lst file to use a left handed mouse
```

```
update ibmnsm/user/list lefty.lst/workstation/pref-mouse-arrangement/ left-handed
// update all users that have a name that starts with "left" to use a left handed mouse
update ibmnsm/user/all like ^left/workstation/pref-mouse-arrangement/ left-handed
```

Errors

The following table lists corrections for ccommon problems.

Problem	Description
IncorrectCommandException	Wrong command syntax, value, or value combination. Possible problems include: • Level value does not exist. • Property name does not exist. • Category name and property name combination are not valid. • The value is out of range.
NSMCLFileException	File not found, not readable, or no file authority. Stops processing of the current command or script file. If the message says no authority, the user may not be the Administrator.
NSMCLSystemException	Unexpected program error.

Chapter 8. Customizing additional values

The IBM Network Station Manager program and the IBM Network Station command line utility allow you to modify many desktop and application configuration values. This section explains additional values that can be customized.

Java

IBM Network Station Manager allows for two Java application environments:

1. The Netscape Java virtual machine environment (JVM) provides a standard Netscape Java environment (Netscape JVM 1.1.5).
2. The IBM Network Station Java virtual machine environment provides the latest IBM enhanced Sun JVM (IBM JVM 1.1.8). The IBM Network Station JVM environment (available from IBM) also allows for the support of the latest beta level of JVM from Sun (using the $JAVA_LEVEL environment variable).

Java applications can be run:

- as an applet from the browser in the JVM that is shipped with Netscape Communicator
- as an applet from the browser in the JVM that is shipped with the IBM Network Station. See “Using the Runtime Plug-in for the Network Station, Java Edition” on page 52.
- as a standalone Java application

For more information about Java, see http://www.ibm.com/java.

Configuring a Java application

To configure a Java application to run from the IBM Network Station desktop, you must complete the following steps. For example we have an application called JavaTest that is going to be placed on an AS/400 system.

1. Create a directory to place the Java application. For example: `\Root\test`.
2. Allow the directory to be accessed by the Network Station through the file system. On an AS/400 system use Client Access to verify the correct permissions are set. On RS/6000 and Windows NT (use the eNetwork On Demand Server) define an NFS export or alias.
3. Configure a mount point using the IBM Network Station Manager program (**Environment->Network**). For example:
   - Mount type: `RFS` - AS/400 file system
   - Server address: `10.1.2.3` - address of the server where the Java application is located
   - Remote mount point: `/test` - the export or alias of the directory where the Java application is located
   - Local mount point: `/tmp/test` - the name of the Network Station mount point
   - Read blocksize: `1024`
   - Write blocksize: `1024`
   - Access permission: `Read only`
4. Configure an icon on the desktop launch bar using the IBM Network Station Manager program (**Desktop->Launch Bar**). For example:
   - Icon label `MyJavaTest`
   - Application (class) name: `JavaTest`
   - Class path: `/tmp/test/JavaTest1.jar:/tmp/test/JavaTest2.jar`

See “IBM Network Station client (AS/400 only)” on page 37 for another example of how to configure a Java application.

Configuring a Java applet

To configure a Java applet to run from the IBM Network Station desktop, you must complete the following steps. For example we have an applet called JavaTest that is going to be placed on an AS/400 system.

1. Create a directory to place the Java applet and HTML source. For example: `\Root\test`. If your applet is being served from an HTTP server, skip to step 4.
2. Allow the directory to be accessed by the Network Station through the file system. On an AS/400 system use Client Access to verify the correct permissions are set. On RS/6000 and Windows NT (use the eNetwork On Demand Server) define an NFS export or alias.
3. Configure a mount point using the IBM Network Station Manager program (**Environment->Network**). For example:
   - Mount type: `RFS` - AS/400 file system
   - Server address: `10.1.2.3` - address of the server where the Java application is located
   - Remote mount point: `/test` - the export or alias of the directory where the Java application is located
   - Local mount point: `/tmp/test` - the name of the Network Station mount point
   - Read blocksize: `1024`
   - Write blocksize: `1024`
   - Access permission: `Read only`
4. Configure an icon on the desktop launch bar using the IBM Network Station Manager program (**Desktop->Launch Bar**). For example:
   - Icon label `MyJavaTest`
   - URL: `/tmp/test/JavaTest.htm` (Use `http://10.1.2.3/test/JavaTest.htm` or `file:///tmp/test/JavaTest.htm` with an HTTP server.)
5. If you need to specify a class path, use the IBM Network Station Manager program to set the class path of the applet viewer (**Applications->Applet Viewer**). For example, User classpath: /tmp/test/JavaTest1.zip:/tmp/test/JavaTest2.zip

Changing levels of the JVM for Java applications

It is possible to change which level of JVM is available for your Network Stations. This is handy for developers who would like to test or develop applications on new versions of JVM. Using the IBM Network Station Manager program, set the $JAVA_LEVEL environment variable to the path for the different level of JVM. You should consider only changing the JVM for an individual user or a small group of users until you verify that the different level of JVM is stable enough for your needs.

Using the Runtime Plug-in for the Network Station, Java Edition

The Runtime Plug-in for the Network Station, Java Edition provides the capability of redirecting Java applets from Netscape Communicator to a JVM that is external to the browser (the IBM Network Station JVM). The IBM Network Station licensed program includes the Runtime Plug-in for the Network Station, Java Edition. You can enable and disable the the plug-in by using the IBM Network Station Manager program.

Java Media Framework 1.1

The IBM Network Station Manager licensed program includes Java Media Framework (JMF) 1.1 for Network Computers. This is an ennhanced version of JMF 1.1 from JavaSoft. For details on how to develop Java applications using JMF 1.1, see http://www.javasoft.com.

Applet viewer command line syntax

The applet viewer command line has the following syntax:

```
appletviewer <parameter>
```

Where <parameter> is the URL of the applet.

Netscape Communicator

It is possible to configure the Netscape preferences that the IBM Network Station Manager program or the IBM Network Station command line program does not configure by using an overides file. The overides file is not shipped from IBM. You must create a file called overrides.js and place the file in $ProdBase/usr/local/netscape. You can create this file manually or by using Netscape's Mission Control software. If you use the Mission Control software, make sure that you save the file as a plain text file. JavaScript configuration preferences are placed in this file.

For an overview of Netscape Communicator configuration, see http://developer.netscape.com/docs/manuals/deploymt/config.htm For more information on JavaScript configuration preferences, see http://developer.netscape.com/docs/manuals/deploymt/jsprefs.htm

Launching local applications from Netscape Communicator

It is possible to launch local Network Station applications from an HTML page. This provides the ability to use an HTML page as a desktop from which local Network Station applications can be launched. In order to do this, you need to do the following:

1. Configure the URL protocol using the netscape.cfg or overrides.js files. The netscape.cfg file is a text file and can be found in the $ProdBase/usr/local/netscape directory. (See "Netscape Communicator" for more information on the overrides.js file.) The following syntax is added to define a local application:

   ```
   lockPref("applications.<scheme>", <command>);
   locPref("applications.<scheme>.active", <true|false> );
   ```

   Where:

   - scheme is the name of the scheme
   - true|false indicates if the application is active (launched) or inactive

   For example, the following is a portion of an netscape.cfg file:

   ```
   lockPref( "applications..X-5250", "ns5250 %h");
   lockPref( "applications..X-5250.active",  true);
   lockPref( "applications..X-ICA", "/usr/lib/ICAClient/wfica");
   lockPref( "applications..X-ICA.active",  true);
   lockPref( "applications..X-ICAMgr", "/usr/lib/ICAClient/wfcmgr");
   lockPref( "applications..X-ICAMgr.active",  true);
   lockPref( "applications..X-java", "/usr/bin/java %h");
   lockPref( "applications..X-java.active",  true);
   lockPref( "applications..X-appletviewer", "/usr/bin/appletviewer %h");
   lockPref( "applications..X-appletviewer.active",  true);
   lockPref( "applications..X-nsterm", "nsterm %h");
   lockPref( "applications..X-nsterm.active",  true);
   lockPref( "applications..X-Real", "rvplayer %h");
   lockPref( "applications..X-Real.active",  false);
   lockPref( "applications..X-FileMgr", "ncdocmgr %h");
   lockPref( "applications..X-FileMgr.active",  false);
   lockPref( "applications..X-ncedit", "ncedit %h");
   lockPref( "applications..X-ncedit.active",  false);
   lockPref( "applications..X-Calc", "nccalc %h");
   lockPref( "applications..X-Calc.active",  false);
   lockPref( "applications..X-Audio", "ncaudio %h");
   lockPref( "applications..X-Audio.active",  true);
   lockPref( "applications..X-Video", "ncxanim %h");
   lockPref( "applications..X-Video.active",  false);
   lockPref( "applications..X-Paint", "ncpaint %h");
   lockPref( "applications..X-Paint.active",  false);
   lockPref( "applications..X-Diag", "xterm -sh -sl 1000 -rv -name Advanced_Diagnostics ");
   ```

```
lockPref( "applications..X-Diag.active", false);
lockPref( "applications..X-PrintMon", "ncprmonitor");
lockPref( "applications..X-PrintMon.active",  false);
```

2. Code a link into your Web page with the following syntax:

```
<a href="<scheme>://<target><parameters>">Link text goes here</a>
Where:
target is the target of the application (optional)
parameters are the parameters of the local application (optional)
```

   For example, the following presents a 5250 emulator signon screen to the mycompany.com AS/400 system:

```
<a href="X-5250://mycompany.com">Signon to MyCompany</a>
```

Netscape Communicator command line syntax

The Netscape Communicator command line has the following syntax:

```
run_netscape <URL> <parameter>
```

Where:

- <URL> is the URL of the page to display.
- <parameter> is a Netscape Communicator UNIX version command line parameter. The Netscape Communicator command line parameters can be found at http://developer.netscape.com/docs/manuals/deploymt/options.htm.

Login

It is possible to configure the login dialog by editing and changing values in the following files that are associated with the login function:

- The actlogin.conf file is found in the $PRODBASE/x86/etc/ and $PRODBASE/ppc/etc/ directories.
- The Login file is found in the $PRODBASE/x86/nls/<locale>/ and $PRODBASE/ppc/nls/<locale>/ directories.

Note: Before you make changes to any file, you should make a backup copy of the original.

Login graphic

To change the IBM graphic on the login dialog to another graphic, change the following line in the actlogin.conf file:

```
Login*TopForm*PixmapDisplay.labelPixmap: /usr/local/nc/boot/login/ibmlogo.xbm
```

to

```
Login*TopForm*PixmapDisplay.labelPixmap: /usr/local/nc/boot/login/another.xbm
```

To change the IBM graphic on the login dialog to no graphic, change the following line in the actlogin.conf file:

```
Login*TopForm*PixmapDisplay.labelPixmap: /usr/local/nc/boot/login/ibmlogo.xbm
```

to

```
Login*TopForm*PixmapDisplay.labelPixmap:
```

X bitmap (.xbm) files can be created with a variety of UNIX image programs. On a Windows platform you could use an image program such as Image Alchemy (ftp://ftp.simtel.net/pub/simtelnet/msdos/graphics/alch18.zip) to create X bitmap files.

Colors

To change colors of any of the login dialog widgets, change the foreground and background resources. For example to change the background window's background color to red change the following line:

```
Login*PlaneFrame.background: #006699
```

to

```
Login*PlaneFrame.background: #ff0000
```

See "Appendix C. Colors" on page 85 for a list of common colors.

Title

To change the title of the login dialog to xxx, change the following line in the Login file:

```
Login*OuterFrame.InnerFrame.LoginForm.Title.labelString: IBM Network Station Login
```

to

```
Login*OuterFrame.InnerFrame.LoginForm.Title.labelString: xxx
```

Roam button

To remove the Roam button from the login dialog, uncomment the following lines in the actlogin.conf file:

```
Login*OuterFrame.InnerFrame.LoginForm.ButtonForm.Roam.mappedWhenManaged: False
Login*OuterFrame.InnerFrame.LoginForm.ButtonForm.fractionBase: 3
Login*OuterFrame.InnerFrame.LoginForm.ButtonForm.Ok.bottomPosition: 3
Login*OuterFrame.InnerFrame.LoginForm.ButtonForm.StartOver.bottomPosition: 3
Login*OuterFrame.InnerFrame.LoginForm.ButtonForm.Help.leftPosition: 2
Login*OuterFrame.InnerFrame.LoginForm.ButtonForm.Help.rightPosition: 3
Login*OuterFrame.InnerFrame.LoginForm.ButtonForm.Help.bottomPosition: 3
```

Note: If you remove the Roam button, you may also want to modify the Login*MainHelp*messageString in the Login file.

Error messages

To add additional text to the following error messages, uncomment and edit the Login.syerr lines of text in the actlogin.conf file. For example to change message `NSC3008 Server not responding.` to `NSC3008 Server not responding. Call help desk, 555-1234`, change:

```
! Displayed with message NSC3008
!Login.syerr.808: Call help desk, 555-1212
```

to

```
! Displayed with message NSC3008
Login.syerr.808: Call help desk, 555-1234
```

ICA client

ICA Remote Application Manager command line syntax

The ICA Remote Application command line has the following syntax:

```
wfcmgr <parameter>
```

Where <parameter> is:

-noupdate
Specifies that updates to the connection file and the configuration file are not allowed.

ICA client command line syntax

The ICA client command line has the following syntax:

```
wfica [ica_parameters] [ns_parameters [-- <application>]
```

Where [ica_parameters] are:

-quiet Specifies that connection dialogs are not displayed.

-desc[ription] <string>
Specifies the full text from the Description field of the connection definition dialog. Either -description, -server, or --<application> must be specified.

-file <filename>
Specifies the fully qualified file name of the file that contains the connection description. The default file is $UserBase/home/<user>/.ICAClient/appsrv.ini.

Where [ns_options] are:

-s[erver] <name>
Specifies the ICA application server to connect. The name can be a fully qualified network host name, an abbreviated network hostname, or a dotted decimal network address. Either -description, -server, or --<application> must be specified, -server and -browser are mutually exclusive.

-server1
Indirectly specifies -server <name> where <name> is the first boot host parameter specified in the NS Boot utility or Setup Utility.

-server2
Indirectly specifies -server <name> where <name> is the second boot host parameter specified in the NS Boot utility or Setup Utility.

-server3
Indirectly specifies -server <name> where <name> is the third boot host parameter specified in the NS Boot utility.

-b[rowser] <namelist>
Specifies the name of a master browser. The master browser is an ICA server that tells the ICA client what ICA application server to connect and what application to run. A colon separated list of master browsers can be specified. Each browser name can be a fully qualified network host name, an abbreviated network hostname, or a dotted decimal network address. If -server or -browser are specified and -- <application> is specified, then the ICA client broadcasts to the local subnet to get a master browser name. Either -description, -server, or --<application> must be specified, -server and -browser are mutually exclusive.

Note: The ICA client and ICA Remote Application Manager only support multiple hosts to specify a list of master browsers. Multiple hosts to support a list of ICA application servers is not supported.

-browser1
Indirectly specifies -browser <namelist> where <namelist> is the first boot host parameter specified in the NS Boot utility or Setup Utility.

-browser2
Indirectly specifies -browser <namelist> where <namelist> is the second boot host parameter specified in the NS Boot utility or Setup Utility.

-browser3
Indirectly specifies -browser <namelist> where <namelist> is the third boot host parameter specified in the NS Boot utility.

-u[sername] <name>
Specifies the Windows NT server user name.

-p[assword] <password>
Specifies the Windows NT server login password.

-do[main] <name>
Specifies the Windows NT server domain.

-na[me] <clientname>
Specifies the client name to be used by the ICA application server. If the client name is longer than 20 characters, it is truncated to 20 characters.

-c[olor] <16|256>
Specifies the number of colors that the ICA application server should use to generate application graphics. 16 or 256 can be specified.

-en[cryption] <level>
Specifies the level of encryption. Encryption levels are:

- basic - simple encryption (default)
- login - 128–bit RSA encryption for login only
- 40 - 40–bit RSA encryption
- 56 - 56–bit RSA encryption
- 128 - 128–bit RSA encryption

If any level of encryption other than basic is specified, then the user is forced to login through the Windows NT login dialog.

-g[eometry] <WxH±X±Y>
Specifies the window width(W), height (H), X offset(X), and Y offset(Y). All values are in pixels. Positive X offsets are from the top of the screen and negative are from the bottom of the screen. Positive Y offsets are from the left side of the screen and negative are from the right side of the screen. Variations of this parameter include <WxH> and <±X±Y>.

-g[eometry] fullscreen
Specifies <maximum_screen_width x maximum_screen_height + 0 + 0>.

-t[itle] <text>
Specifies the text that should be displayed in the window title bar.

-- <application>
Specifies the program to run on the ICA application server. If the -server parameter is specified, then the application is run from that server. If the -server parameter is not specified, then a master browser is contacted to find the application server. This parameter must be the last parameter. Either -description, -server, or -- <application> must be specified, or a default description must exist in an accessible connection file.

Key mapping

There can be keystroke interference between the IBM Network Station Manager windows manager and the Windows NT window manager. The table below identifies some typical key sequences that overlap.

Key Sequence	IBM Network Station Manager window manager	Windows NT window manager
Alt + F4	Close current X11 window	Close current Windows NT window
Alt + F10	Display X11 root menu	Delete Windows NT macro definitions
Alt + Space	Display X11 window menu	Display Windows NT program's system menu

Key Sequence	IBM Network Station Manager window manager	Windows NT window manager
Alt + Tab	Switch X11 windows forwards	Switch Windows NT windows forwards
Alt + Shift + Tab	Switch X11 windows backwards	Switch Windows NT windows backwards
Ctrl + Alt + Delete	Kill X11 active window	Display NT security menu
Print Screen	Capture X11 screen image	Capture Windows NT screen image
Alt + Print Screen	Capture X11 active window image	Capture Windows NT active window image

Listed below are some possible workarounds to keystroke interference problems:

1. Redefine the conflicting IBM Network Station Manager windows manager key sequences using the IBM Network Station Manager command line utility.
2. Use the ICA Remote Application Manager's HotKey dialog to define a set of alternative key sequences.
3. Use the Alt + Shift + Ctr + F11 key sequence to toggle off and on the IBM Network Station Manager window manager's ability to process key sequences.
4. Run Windows NT applications in separate ICA sessions rather than in the Windows NT desktop. Each Windows application then has its own X11 window.

Emulators

VT emulator command line syntax

The VT emulator command line has the following syntax:

```
nsterm <parameters>
```

Where <parameters> are:

-host <hostname>
Specifies the name of the system where you want to establish a session.

-geometry <WxH±X±Y>

Note: VT emulator support of -geometry is different than 3270 and 5250.

Specifies the window width(W), height(H), X offset(X), and Y offset(Y). Width specifies the number of columns in the VT emulator window. Height specifies the number of rows in the VT emulator window. X and Y offsets are in pixels. Positive X offsets are from the top of the screen and negative X offsets are from the bottom of the screen. Positive Y offsets are from the left side of the screen and negative Y offsets are from the right side of the screen. Variations of this parameter include <WxH> and <±X±Y>.

-title <text>
Specifies the text that should be displayed in the window title bar.

-132 Specifies that the 132 column screen size is enabled.

-bg <color>
Specifies the background color.

-cr <color>
Specifies the cursor color. The default is black.

-fg <color>
Specifies the foreground color. The default is black.

-ms <color>
Specifies the mouse pointer color. The default is black.

-n <name>
Specifies the icon title.

-tn <type>
Specifies the terminal type. Valid types are: xterm, vt320, vt300, vt220, vt200, vt102, vt100, and ansi.

3270 emulator command line syntax

The 3270 emulator command line has the following syntax:

```
ns3270 <system> <parameters>
```

Where <system> is the name of the system where you want to establish a session.

Where <parameters> are:

-geometry <WxH±X±Y>
Specifies the window width(W), height (H), X offset(X), and Y offset(Y). All values are in pixels. Positive X offsets are from the top of the screen and negative are from the bottom of the screen. Positive Y offsets are from the left side of the screen and negative are from the right side of the screen. Variations of this parameter include <WxH> and <±X±Y>.

-rows <number>
Specifies the number of rows on the screen. The supported rows x columns combinations are 24 x 80, 32 x 80, 43 x 80, and 27 x 132.

-cols <number>
Specifies the number of columns on the screen. The supported rows x columns combinations are 24 x 80, 32 x 80, 43 x 80, and 27 x 132.

-title <text>
Specifies the window title. The window title has three parts. The first portion of the window title is the window title text. The default window title text is ″3270″. You can change this text. The middle portion of the window title is the system name to which this 3270 session is communicating. The length of the name can be up to 20 characters in length. The last portion of the window title is your IBM Network Station session number on this system. ″1″ is the first session into a system; ″2″ is the second session.

-DISPLAY_NAME <name>
Specifies the LU display name for 3270 sessions using the IBM Network Station Manager program.

Note: TN3270 Enhancements (TN3270E) is required on your server to specify LU display names for 3270 sessions.

-DISPLAY_NAME also controls the number of 3270 sessions that can be started on the target System/390. The rules for System/390 display names are:

- Each active 3270 session must have a unique session name (virtual display name).
- Display names must be 2 to 8 characters in length.
- The first character must be an alpha character, @, #, or $.
- All characters must be alpha, numeric, @, #, or $.
- All alpha characters must be upper case.

There are 9 types of the display name parameters. The first 5 parameter types follow the user, independent of the IBM Network Station used. The last 4 parameter types are associated with a specific IBM Network Station.

1. XXXXXX where XXXXXX is a 2 to 8 character name of the 3270 session. The user is limited to a single session. ////In the paragraph below, ″XXXXXX+n″, ″XXXXXX″, ″n″, ″JUAN+3″, ////″JUAN1″, ″JUAN2″, and ″JUAN3″ must not be translated.
2. XXXXXX+n where XXXXXX is a 1 to 7 character name of the 3270 session. The user is limited to n sessions. n is a number from 2 and 9. For example: JUAN+3 would allow the user to start three 3270 sessions where the first session would be JUAN1, the second JUAN2, then JUAN3.
3. ″XXXXX YYYYYYYY ZZZZ″ is a list of possible display names separated by a space. The starting and ending quotes are required. Each name must be 2 to 8 characters in length. The maximum number of names is determined by the size of Other parameters in IBM Network Station Manager (256 characters).
4. USE_USER_ID allows the user to start a single 3270 session where the session name is the same as the user's User ID (2 to 8 characters).
5. USE_USER_ID+n allows the user to start n 3270 sessions where the session name is the same as the user's User ID (limited to 7 characters) with the number n appended to the end. n is a number from 2 to 9. For example: USE_USER_ID+3 and a User ID of JUAN would have session names of JUAN1, JUAN2, and JUAN3. ////In the paragraph below, ″USE_HOST_NAME″ must not be translated.
6. USE_HOST_NAME allows the user to start a single 3270 session where the session name is the TCP/IP Host Name of the Network Station. The Host Name is read from the DNS (Domain Name Server) at Network Station login time. Lower case characters are converted to upper case by the 3270 emulator. If the Host Name exceeds 8 characters, the session name is truncated starting from the end, up to a period. For example, a Network Station with a Host Name of ns23.newyork.ibm.com would have a session name of NS23.
7. USE_HOST_NAME+n is also supported. n is a number from 2 to 9.
8. USE_MAC_ADDRESS allows the user to start a single 3270 session where the session name is created starting with an alpha character which indicates the type of communication card (T for token ring or E for Ethernet) followed by the lower three and one half bytes of the MAC address. For example: USE_MAC_ADDRESS with a token ring Network Station and MAC address of 00.00.E5.68.D5.99 would result in a session name of T568D599.
9. USE_MAC_ADDRESS+n allows the user to start n 3270 sessions where the session name is created from the lower three bytes of the MAC address, with n appended to the end. n is a number from 2 to 9. For example: USE_MAC_ADDRESS+2 with a token ring Network Station and MAC address of 00.00.E5.68.D5.99 would result in session names of T68D5991 and T68D5992.

-playback <filename>

Specifies the name of a playback file. Use the following procedure to create an auto-logon playback file (playback file that automatically starts at 3270 session start time). An auto-logon playback file can substitute the user's User ID and Password during playback. An auto-logon playback file is created as follows:

1. Start a 3270 session.
2. Click **Option**, **Record...**, and then **Start**.
3. If the cursor is not in the User ID entry field, move the cursor to the User ID entry field.
4. Click **Pause** (you may need to move the Record Pause Options window to see the 3270 session User ID and Password entry fields).
5. Select **Insert User ID at this point**.
6. Click on the 3270 session window title to enable the cursor in the 3270 session.
7. Enter your User ID in the User ID entry field (your User ID is not recorded). Note on steps 7 and 13 on page 61: during playback, the User ID and Password (step 13 on page 61) that were used on the user's initial 'IBM Server Login' are used during system logon. If the Authentication Server is different than the system providing this 3270 session, the user's User

ID and Password should be the same. If not the same, you could select **Pause playback at this point** to allow the user to enter their User ID or Password on this system.

8. Click **Continue Recording**.
9. Move the cursor to the Password entry field: click the mouse in the first Password entry field position or press the Home key and then the Tab key as necessary to move the cursor to the Password entry field (this positions the cursor in the Password entry field correctly for a User ID that fills the User ID entry field).
10. Click **Pause**.
11. Select **Insert Password at this point**.
12. Click on the 3270 session window title to enable the cursor in the 3270 session.
13. Enter your Password (your Password is not recorded).
14. Click **Continue Recording**. Note: Your 'IBM Server Login' Password will be used during auto-logon playback.
15. Press the Enter key. You may need to press other keys to remove system messages after the Enter key.
16. If you wish, you can add to the playback file. For example, you can start a specific system application.
17. Click **Stop Recording**.
18. Enter a name for this auto-logon playback file and click **Save**.
19. Now, start the IBM Network Station Manager program. If you are creating an auto-logon playback file for yourself, you can skip steps 20 through 23.
20. Select **System**, **Group**, or **User** to determine who has access to this auto-logon playback file.
21. Click **Applications** and click **3270** to change 3270 preferences.
22. Select the desired auto-logon playback file name from the list of playback sequences to make available.
23. Click **Save**.
24. Click **Desktop** and click **Launch Bar**.
25. Edit the Launch Bar Content for the 3270 session. Note: When using the Launch Bar for auto-logon, the user's IBM Network Station will not be secure unless locked or logged out. If an IBM Network Station is left unlocked and a Launch Bar does auto-logon, anybody can log on to the system by clicking on the Launch Bar icon. An alternative is to change step 9 to select **Pause playback at this point**. This will require the user to enter their Password when starting the 3270 session.
26. Add the parameter of -playback followed by one space and the (case sensitive) playback file name. If your playback file name contains any spaces, use double qoutes around the file name (for example, -playback ″playback file name″).
27. Click **OK**, then **Save**.
28. If you are setting up the auto-logon playback file for multiple User defaults, repeat steps 20 through 27 for each user.

    Notes:

    a. If the auto-logon playback file does not work correctly, you can re-record the playback file and replace the existing playback file.

    b. If you playback this auto-logon playback file using the 3270 **Playback...** pull down, you will be required to enter your password.

Note: An administrator can create a system or group default auto-logon playback file. Individual users could create their own auto-logon playback file (starting their programs) with the same playback file name. These users must exclude the system or group default playback file in their 3270 preferences, so the user-level playback file is found.

-port <number>
Specifies the SSL port number. If SSL is used, the default port is 992. If SSL is not used, the default port is 23.

-SSL <keyringfile>
Specifies the path and name of the keyring file. The sufix .kyr is appended to the keyring file name.

Refer to the 3270 emulator help text for more command line parameters.

5250 emulator command line syntax

The 5250 emulator command line has the following syntax:

```
ns5250 <system> <parameters>
```

Where <system> is the name of the system where you want to establish a session.

Where <parameters> are:

-geometry <WxH±X±Y>
Specifies the window width(W), height (H), X offset(X), and Y offset(Y). All values are in pixels. Positive X offsets are from the top of the screen and negative are from the bottom of the screen. Positive Y offsets are from the left side of the screen and negative are from the right side of the screen. Variations of this parameter include <WxH> and <±X±Y>.

-rows <number>
Specifies the number of rows on the screen. The supported rows x columns combinations are 24 x 80 and 27 x 132.

-cols <number>
Specifies the number of columns on the screen. The supported rows x columns combinations are 24 x 80 and 27 x 132.

-title <text>
Specifies the window title. The window title has three parts. The first portion of the window title is the window title text. The default window title text is ″5250″. You can change this text. The middle portion of the window title is the system name to which this 5250 session is communicating. The length of the name can be up to 20 characters in length. The last portion of the window title is your IBM Network Station session number on this system. ″1″ is the first session into a system; ″2″ is the second session.

-DISPLAY_NAME <name>
Specifies the virtual display name for 5250 sessions using the IBM Network Station Manager program. -DISPLAY_NAME also controls the number of 5250 sessions that can be started on the target AS/400. The target AS/400 must be at Version 3/Release 2, Version 3/Release 7, Version 4/Release 1 or later. The rules for AS/400 display names are:

- Each active 5250 session must have a unique session name (virtual display name).
- Display names must be 2 to 10 characters in length.
- The first character must be an alpha character.
- The first character must be an alpha character.
- All characters must be alpha, numeric, a period, or an underscore.
- All alpha characters must be upper case.

There are 11 types of the display name parameters. The first 7 parameter types follow the user independent of the IBM Network Station used. The last 4 parameter types are based on the IBM Network Station hardware.

1. XXXXXX where XXXXXX is a 2 to 10 character name of the 5250 session. The user is limited to a single session.

2. XXXXXX+n where XXXXXX is a 1 to 9 character name of the 5250 session. The user is limited to n sessions. n is a number from 2 and 9. For example: JUAN+4 would allow the user to start four 5250 sessions where the first session would be JUAN1, the second JUAN2, then JUAN3 and JUAN4.
3. ″XXXXX YYYYYYYY ZZZZ″ is a list of possible display names separated by a space. The starting and ending quotes are required. Each name must be 2 to 10 characters in length. The maximum number of names is determined by the size of Other parameters in IBM Network Station Manager (256 characters).
4. USE_USER_ID allows the user to start a single 5250 session where the session name is the same as the user's Network Station User ID (2 to 10 characters).
5. USE_USER_ID+n allows the user to start n 5250 sessions where the session name is the same as the user's Network Station User ID with the number n appended to the end. n is a number from 2 to 9. For example: USE_USER_ID+4 and a User ID of JUAN would have session names of JUAN1, JUAN2, JUAN3, and JUAN4. Note: If the User ID is 10 characters, the last character is replaced by the number n.

   USE_USER_ID+99 is supported. This option allows multiple users to share the same User ID. Up to 99 5250 sessions can be started; however, for performance reasons, 40 or fewer 5250 sessions is recommended. Session numbers from 1 to 99 are chosen randomly and appended to the User ID. If the User ID is 9 characters, the last character is removed before the 1 or 2 digit number is added. Two characters are removed for a 10 character User ID.

   USE_USER_ID+999 is supported. Up to 999 5250 sessions can be started. Session numbers from 1 to 999 are chosen randomly and appended to the User ID. If the User ID is 8 characters, the last character is removed before the 1 to 3 digit number is added. Two characters are removed for a 9 character User ID and three characters are removed for a 10 character User ID.
6. text+USE_USER_ID is another variation of USE_USER_ID. The 'text' are characters that preceed the user's User ID. For example, DSP+USE_USER_ID and a User ID of JUAN would have a session name of DSPJUAN. The text can be from 1 to 8 characters.
7. text+USE_USER_ID+n is also supported. n is a number from 2 to 9. text+USE_USER_ID+99 and text+USE_USER_ID+999 are supported; see display name type 5 above for more information.
8. USE_HOST_NAME allows the user to start a single 5250 session where the session name is the Host Name of the Network Station. The Host Name is read from the DNS (Domain Name Server) at Network Station login time. Lower case characters are converted to upper case by the 5250 emulator. If the Host Name exceeds 10 characters, the session name is truncated starting from the end, up to a period delimitor. For example, a Network Station with a Host Name of ns23.newyork.ibm.com would have a session name of NS23.
9. USE_HOST_NAME+n is also supported. n is a number from 2 to 9.
10. USE_MAC_ADDRESS allows the user to start a single 5250 session where the session name is created starting with an alpha character which indicates the type of communication card (T for token ring or E for Ethernet) followed by the lower four bytes of the MAC address. For example: USE_MAC_ADDRESS with a token ring Network Station and MAC address of 00.00.E5.68.D5.99 would result in a session name of TE568D599.
11. USE_MAC_ADDRESS+n allows the user to start n 5250 sessions where the session name is created as above but with n appended to the end. n is a number from 2 to 9. For example: USE_MAC_ADDRESS+3 with a token ring Network Station and MAC address of 00.00.E5.68.D5.99 would result in session names of TE568D5991, TE568D5992, and TE568D5993.

-playback <filename>

Specifies the name of a playback file. Use the following procedure to create an auto-logon playback file (playback file that automatically starts at 5250 session start time). An auto-logon playback file can substitute the user's User ID and Password during playback. An auto-logon playback file is created as follows:

1. Start a 5250 session.
2. Click **Option**, **Record...**, and then **Start**.
3. If the cursor is not in the User ID entry field, move the cursor to the User ID entry field.
4. Click **Pause** (you may need to move the Record Pause Options window to see the 5250 session User ID and Password entry fields).
5. Select **Insert User ID at this point**.
6. Click on the 5250 session window title to enable the cursor in the 5250 session.
7. Enter your User ID in the User ID entry field (your User ID is not recorded). Note on steps 7 and 13: during playback, the User ID and Password (step 13) that were used on the user's initial 'IBM Server Login' are used during system logon. If the Authentication Server is different than the system providing this 5250 session, the user's User ID and Password should be the same. If not the same, you could select **Pause playback at this point** to allow the user to enter their User ID or Password on this system.
8. Click **Continue Recording**.
9. Move the cursor to the Password entry field: click the mouse in the first Password entry field position or press the Home key and then the Tab key as necessary to move the cursor to the Password entry field (this positions the cursor in the Password entry field correctly for a User ID that fills the User ID entry field).
10. Click **Pause**.
11. Select **Insert Password at this point**.
12. Click on the 5250 session window title to enable the cursor in the 5250 session.
13. Enter your Password (your Password is not recorded).
14. Click **Continue Recording**. Note: Your 'IBM Server Login' Password will be used during auto-logon playback.
15. Press the Enter key. You may need to press other keys to remove system messages after the Enter key.
16. If you wish, you can add to the playback file. For example, you can start a specific system application.
17. Click **Stop Recording**.
18. Enter a name for this auto-logon playback file and click **Save**.
19. Now, start the IBM Network Station Manager program. If you are creating an auto-logon playback file for yourself, you can skip steps 20 through 23.
20. Select **System**, **Group**, or **User** to determine who has access to this auto-logon playback file.
21. Click **Applications** and click **5250** to change 5250 preferences.
22. Select the desired auto-logon playback file name from the list of playback sequences to make available.
23. Click **Save**.
24. Click **Desktop** and click **Launch Bar**.
25. Edit the Launch Bar Content for the 5250 session. Note: When using the Launch Bar for auto-logon, the user's IBM Network Station will not be secure unless locked or logged out. If an IBM Network Station is left unlocked and a Launch Bar does auto-logon, anybody can log on to the system by clicking on the Launch Bar icon. An alternative is to change step 9 to select **Pause playback at this point**. This will require the user to enter their Password when starting the 5250 session.

26. Add the parameter of -playback followed by one space and the (case sensitive) playback file name. If your playback file name contains any spaces, use double qoutes around the file name (for example, -playback ″playback file name″).
27. Click **OK**, then **Save**.
28. If you are setting up the auto-logon playback file for multiple User defaults, repeat steps 20 on page 64 through 27 for each user.

    Notes:

    a. If the auto-logon playback file does not work correctly, you can re-record the playback file and replace the existing playback file.

    b. If you playback this auto-logon playback file using the 5250 **Playback...** pull down, you will be required to enter your password.

Note: An administrator can create a system or group default auto-logon playback file. Individual users could create their own auto-logon playback file (starting their programs) with the same playback file name. These users must exclude the system or group default playback file in their 5250 preferences, so the user-level playback file is found.

-port <number>
Specifies the SSL port number. If SSL is used, the default port is 992. If SSL is not used, the default port is 23.

-SSL <keyringfile>
Specifies the path and name of the keyring file. The sufix .kyr is appended to the keyring file name.

Refer to the 5250 emulator help text for more command line parameters.

Secure sockets layer

The 3270 and 5250 emulator applications contain secure sockets layer (SSL) support through the use of telnet-SSL. This provides greater security for data (including user IDs and passwords) that is sent over the network.

An overview of what you need to do to enable SSL connections are outlined below:

Client side

1. Enable the emulator application to use SSL by specifying the -port and -SSL parameters for the emulator sessions. See “3270 emulator command line syntax” on page 59 or “5250 emulator command line syntax” on page 62 for more information.
2. The public key of the certificate authority who signed the server’s certificate must be in the keyring used by the client. The default shipped keyring or database file is $UserBase/profiles/nsmdef.kyr (note that the file extension is .kyr not .kdb). This file contains public keys for the following certificate authorities:
   - Integrion Certification Authority Root
   - IBM World Registry Certification Authority
   - Thawte Personal Premium CA
   - Thawte Personal Freemail CA
   - Thawte Personal Basic CA
   - Thawte Premium Server CA
   - Thawte Server CA
   - Verisign Test CA Root Certificate
   - RSA Secure Server Certification Authority
   - Verisign Class 1 Public Primary Certification Authority

- Verisign Class 2 Public Primary Certification Authority
- Verisign Class 3 Public Primary Certification Authority
- Verisign Class 4 Public Primary Certification Authority

If you have a certificate that was signed by a certificate authority that is not in the default list, the certificate authority will either need to be added to the shipped keyring or a keyring that you create using a key management utility. The password for the shipped keyring is `nsm` and it is stored in the stash file. The default stash file is $UserBase/profiles/nsmdef.sth. A stash file (prefix.sth) with the same file prefix as the keyring file (prefix.kry) must be used to contain the keyring password.

The following applications provide key management utilities:

- Make Key File Utility (MKKF) - this utility is found in the following products:
  - OS/390 TCP (for more information see *OS/390 eNetwork Communications Server IP Configuration*, SC31–8513)
  - Lotus Domino Go Webserver for Windows NT (comes shipped with IBM Network Station Manager) The mkkf.exe file is found in the \www\bin\ directory.
- IBM Key Management Utility (IKEYMAN) - this utility is found in the following products:
  - AS/400 Client Access (for more information see http://www.as400.ibm.com/infocenter)
  - IBM HTTP Server, a part of the WebSphere product
  - Lotus Domino Go Webserver
  - IBM Personal Communications
  - IBM Host On-Demand
- gskkeyman, a part of the OS/390 Cryptographic Services System SSL product. For more information see *OS/390 System SSL Programming Guide and Reference*, SC24-5877.

Server side

1. Import or create a system certificate. For example on the AS/400 use AS/400 Digital Certificate Manager (for more information see http://www.as400.ibm.com/infocenter).
2. The telnet-SSL server application must be installed and the application must be associated with the certificate. For example on the AS/400 associate the telnet-SSL application (QIBM_QTV_TELNET_SERVER).

Help viewer

It is possible to call the local Help viewer application and display HTML coded help text.

Use the local Text Editor application to create the HTML help text. The Text Editor can be configured as a desktop application.

The Help viewer command line has the following syntax:

```
nchelp <helpfile>
```

Where <helpfile> is the path and name of the html file.

The Help viewer application is located in $ProdBase/<x86|ppc>/usr/local/nc/nchelp.

If nchelp is invoked without specifing the <helpfile> parameter, then the NC_DEFAULT_HELP_FILE environment variable is used.

Creating custom desktop themes

IBM ships several desktop themes that can be enabled or disabled through the IBM Network Station Manager program. IBM Network Station users select from the list of enabled themes. If you want to add your own theme, do the following:

1. Each theme is a file in the $ProdBase/<x86 | ppc>/usr/local/nc/registry/desktop/themes directory. Find a theme that is shipped from IBM that is similar to the theme that you want to create. Copy the theme file into the same directory and give it a new name.
2. Edit the new theme file and set the attributes. Many of the atributes are color definitions. See “Appendix C. Colors” on page 85 for more information on color. Some of the attributes are .xpm (X Pixmap) file definitions. X Pixmap files can be created with a variety of UNIX image programs. On a Windows platform you could use an image program such as Image Alchemy (ftp://ftp.simtel.net/pub/simtelnet/msdos/graphics/alch18.zip).
3. The theme file that you create in the $ProdBase/<x86|ppc>/usr/local/nc/registry/desktop/themes directory is selectable through the IBM Network Station Manager program.

Chapter 9. Migrating from V1R3

The information in this section is meant to be a supplement to the migration information that is provided in your *Installing IBM Network Station Manager* book.

V1R3 configuration preferences that are not migrated by the migration utility include:

- Hand-edited configuration files (see “Hand-edited configuration files”)
- User-created mount points.
- Configuration values that are no longer supported

Java class path information is migrated from V1R3, but Java applications require additional configuration to work correctly in V2R1. For more information, see “Java applets and applications” on page 70

The file $ProdBase/nsm/defaults/preflist.nsm is a list of all the IBM Network Station Manager program preferences that are migrated. Additionally :

- Any preferences starting with the string **NS3270*** within the /NS3270/pref file are migrated.
- Any preferences starting with the string **NS5250*** within the /NS5250/pref file are migrated.

S/390 platforms

If you have an S/390 server platform that is at V1R3 and you want more information on how to migrate to V2R1 on an AS/400, Windows NT, or RS/6000 platform, do the following:

1. Go to this web site: http://www.ibm.com/nc.
2. Select your country and click **Go**.
3. In the left frame, click on **Support**.
4. In the **Search** field enter `S/390 Migration Considerations`.

Hand-edited configuration files

The migration utility reads the following hand-editable V1R3 configuration files:

- $USERBASEr3/StationConfig/defaults.dft ($USERBASEr3/configs/defaults.dft for Windows NT)
- $USERBASEr3/StationConfig/″name″.trm ($USERBASEr3/configs/″name″.trm for Windows NT)
- $USERBASEr3/SysDef/pref.dft
- $USERBASEr3/groups/″groupname″/″groupname″.grp
- $USERBASEr3/users/″username″/″username″.usr

Where:
$USERBASEr3 on AS/400 = /QIBM/UserData/NetworkStation/
$USERBASEr3 on RS/6000 = /usr/netstation/nsm/
$USERBASEr3 on Windows NT = <float>\nstation\userbase\ (where <float> is the default installation drive and path)

The migration utility makes an attempt to migrate the preferences to a script file. It is possible that some of the values in these files will not be migrated. If a value cannot be migrated because it is no longer valid, a message is issued.

The following syntax restrictions apply in order for the migration utility to read the defaults.dft, ″name″.trm, ″groupname″.grp, and ″username″.usr files:

- All lines in these files must end with a line-feed (LF or CRLF).
- Only set commands are processed. All other commands (including read) are ignored.

- Preference name and value must be in lower case. Values can be in mixed case if they represent a string.
- Comments are ignored. If a comment appears on the same line as a preference setting, the comment is taken as part of the setting.
- The value ″nil″ should be used to specify that a preference has no value. The value ″null″ should not be used.
- Integer values should be specified in decimal.
- The value of ″default″ should not be used to set a value to its default value.
- Boolean values should be specified with a ″true″ or ″false″ value (not ″on″ or ″off″, or ″yes″ or ″no″).
- Preferences in the format of pref-name[index] where index is greater than 0 are not migrated. Preferences with an index of -1 (pref-name[-1]), are migrated.

The pref.dft file must be in ASCII format to be read by the migration utility.

The script file is created as $UserBase/profiles/migrate.scr (in the V2R1 directory structure). If the script file already exists, it is appended with new commands. You must review the script file to make sure that it contains the configuration values that you want. See “Chapter 7. IBM Network Station Manager command line utility” on page 35 for more information. Run the IBM Network Station Manager command line utility against the script file to update the IBM Network Station Manager download profiles.

Note: Not all V1R3 configuration values are migrated to V2R1.

The following files are not migrated by the migration utility:

- $USERBASE/StationConfig/local.nsm
- $USERBASE/StationConfig/nsl.dft
- $USERBASE/SysDef/startup.dft
- $USERBASE/SysDef/NAV/pref.dft

Obsolete configuration preferences

config-load-initial-file	Loading of configuration preferences is handled by ncreginit.
config-unit-ethernet-address-file	See NSM_NC_NAME_TYPE as an alternative.
config-unit-ip-address-file	See NSM_NC_NAME_TYPE as an alternative.
config-unit-name-file	See NSM_NC_NAME_TYPE as an alternative.
config-use-decimal-ip-address-notation-as-filename	In V2R1, the Network Station IP address is used in decimal dotted notation (for example 192.43.154.4), when used as the file name of the initial configuration file.

Java applets and applications

Java information is migrated from V1R3 to V2R1, including the class path information. After the migration you will need to do the following:

1. Organize your Java applications and applets using the IBM Network Station Manager program.

   The migration utility creates a new folder named Old Applications. This folder contains applets and applications that were defined on your V1R3 desktop. If the applications or applets were defined for a user, then an Old Applications folder is created for that user. If the applications or applets were defined for the system, then an Old Applications folder is created for the system.
2. Mount the directory where your Java applets or applications are located using the IBM Network Station Manager program.

In order for the Network Station to access the directory where the Java application or applet is located, a mount point must be established from the Network Station to the server. This is new in V2R1.

3. Update the classpath of the Java application or URL of the Java applet to refect the new mount point using the IBM Network Station Manager program.

   If you have an application, edit the class path. If you have an applet with a URL that points to a directory, edit the applet URL. Your new mount point begins with `/tmp/`.

Note: It is also possible to move your Java application or applet to the $UserBase/home/<userid>/ directory instead of establishing a new mount point.

Chapter 10. Diagnostic information

Use the information in this section as an aid to solving Network Station environment problems.

Front-to-end start up description

The following events occur when a Network Station is powered-on:

1. The Network Station power-on self test (POST) runs.
2. The Network Station determines how to obtain its IP address from values stored in its non volatile memory. See “DHCP” on page 74, “BOOTP” on page 75, or “NVRAM” on page 75.
3. The kernel is downloaded.
4. The kernel initializes. The hardware is probed to detect the type of network interface. If a network interface adapter card is present, it is used. Otherwise the base network interface is used. There are no parameters to allow switching back and forth.

   For example, you have an 8364-EUS Network Station (Ethernet base network interface). You add a token-ring network interface adapter card. The kernel recognizes token-ring as the network interface.

   The kernel also probes for a flash interface. If flash is found, it is used as the boot source.

   The kernel creates a root file system and mounts root in one of the following ways:

   - on the flash card (/local)
   - as RFS
   - as NFS

   The kernel attempts to mount RFS first, then NFS. The RFS startup sequence rejects the connect instantly if the host doens not use RFS. NFS will retry and timeout after about 100 seconds.

   The kernel finishes initialization by running the /sbin/init and /sbin/makedevices programs.
5. The operating system initilizes. The /sbin/init program runs and the file .profile is processed. The file .profile is a script that launches the operating system (NetBSD UNIX) and the IBM software stack. If you want to edit the file .profile, make sure that you use an editor that does not write extra end of line characters such as the vi editor. Most Windows editors should not be used because they add extra end of line characters.

   Shortly after the kernel is downloaded, the IBM copyright is displayed. This indicates that the kernel has mounted the file system and started to run the initialization programs.

   The ncboot program runs. This program loads the information in the DHCP Ack block, the UIB, and other network information into the registry. The registry is the master repository for the configuration values. You can query the registry for information. For example to retrieve DHCP information, type `ncregget /boot/dhcp` on the Advanced Diagnostics or telnet command line. You may also want to retrieve `/boot/unique` and `/`

   The program ncreginit runs. This program loads the system and workstation configuration profiles (shipped.nsm, allncs.nsm, and <ncid>.nsm) into the registry.
6. The operating system starts daemons. The following daemons may be started through the file .profile:

   syslog
   : The system log daemon logs messages that applications send to it. See “System log” on page 76 for more information about the system log.

   snmpd
   : The snmp daemon allows the Network Station can respond to SNMP requests.

   ncsetcore and coreserver
   : The ncsetcore and coreserver daemons allow core dump files to be routed to a central file space. See “Dump files” on page 76 for more information about dump files and routing dump files.

nctelnetd
The telnet daemon enables telnet sessions to the Network Station. See “Using telnet to access a Network Station” on page 75 for more information about how to make use of the telnet daemon.

ncprd The printer daemon handles printing services for the Network Station.

seriald
The serial daemon handles input and output to the serial port.

ncleased
The lease daemon allows the Network Station to communicate with the DHCP server to keep the lease of the IP address active.

7. The window system (Xwindows) starts. The window system is started in the color depth, screen size, and resolution specified by the boot code. The file xinitrc is processed. This file does some initial setup and starts the Login program.
8. The Login program is loaded. System environment variables are set based upon registry entries.
9. The Login dialog is presented to the user. The user enters a userid and password. The user can optionally specify the authentication server by using the roam button. The authentication server can also be set using DHCP option 98. If the kiosk mode is set or suppresson of login is used, the Login dialog is not displayed.
10. If authentication is successful, the server returns user credentials, environment variables, mount points, and the address of the configuration server.
11. The registry reads the user configuration profiles (allusers.nsm, <group>.nsm, and <user>.nsm).
12. User environment variables are set based upon registry entries. The user’s file system is mounted, the window manager is launched, and user applications are started.
13. At logout, the user file system is unmounted, the path is reset, user data is cleared from the registry, the login program exits, and the file xinitrc is processed again.

DHCP

1. Network Station sends a request onto the network with a vendor class string.
2. The DHCP server validates the request and responds with the client IP address and the following DHCP options:

Option number	Option name	Used by type 8361 and 8362	Used by type 8363 and 8364
1	Subnet mask	Yes	Yes
3	Gateway	Yes	Yes
6	DNS	Yes	Yes
15	Domain name	Yes	Yes
17	Root path	No	Yes
26	MTU	No	Yes
66	Base code (boot) server	Yes	Yes
67	Boot file	Yes	Yes
98	Authentication server	No	Yes
211	Boot protocol	Yes	Yes
212	Workstation configuration server	Yes	Yes
213	Workstation configuration path	Yes	Yes

Option number	Option name	Used by type 8361 and 8362	Used by type 8363 and 8364
214	Workstation configuration protocol	Yes	Yes
219	Second base code server	No	Yes

BOOTP

1. The Network Station sends a BOOTP request on to the network along with a MAC address.
2. The BOOTP server looks up the MAC address in the BOOTP table. If a match is found the BOOTP server replies with an IP address.

NVRAM

The following information can be stored in the Network Station's nonvolatile memory:

Description	Available on type 8361 and 8362	Available on type 8363 and 8364
IP address	Yes	Yes
Subnet mask	Yes	Yes
Gateway	Yes	Yes
DNS	No	Yes
Base code (boot) server	Yes	Yes
Boot file and path	Yes	Yes
Boot protocol	Yes	Yes
Workstation configuration server	Yes	Yes
Workstation configuration server path	Yes	Yes
Workstation configuration server protocol	Yes	Yes
Authetication server	No	Yes
Authentication server protocol	No	Yes

Using telnet to access a Network Station

It is possible to access a running Network Station for the purpose of diagnosing problems.

When you telnet to the Network Station, you are presented with a login and password prompt. The user id is authenticated through the Network Station's normal authentication server. By default the user id must be one of the following:

- administrator
- qsecofr
- root

You can change the list of user ids by editing the auth file in the $ProdData/<x86|ppc>/usr/local/nc/boot/login/ directory. Specifying a user id of **all** allows anyone to telenet into any Network Station.

If the administator password (or unit-global-password) is set, then you are only prompted for the administrator password.

Once authenticated a shell runs in the telnet session. By default this shell is restricted to running command in the directory specified by the RPATH environment variable. By default the RPATH environment variable is set to /usr/diag. By default this directory is empty. You can copy the files associated with the commands that you want to make available into this directory. If you want to have access to all commands in the telnet session, comment out the following line in the file .profile.

System log

The system log can be displayed by typing `dmesg` on the advanced diagnostics or telnet command line. Up to 100 messages can be stored in the system log. The system log can be routed to a file. For example, typing `dmesg > ~/output` routes the information to a file named output in the user's home directory.

Dump files

If a application produces a core dump, the dump file is written to the user's home directory. A network administrator trying to determine if there are problems may want to enable the ncsetcore and coreserver daemons. The ncsetcore and coreserver daemons are enabled by uncommenting and configuring the appropriate statements in the .profile. The ncsetcore statement tells the Network Station to send the dump file to the IP address specified. The coreserver statement allows the Network Station to receive core dumps from other Network Stations and write them to a server. The following example shows how to send core dumps to the /service export on the main1 server throught the 192.168.10.4 Network Station:

```
# The coreserver can store/process core dumps
if [ $IPADDRESS = "192.168.10.4" ]; then
mount main1:/service /mnt
coreserver --coreroot /mnt --allow-all
fi
#Config everybody to send their cores to 192.168.10.4
ncsetcore 192.168.10.4
```

Helpful commands

The following commands can be helpful to use on the Advanced Diagnostics or telnet command line.

as400auth
Sets AS/400 permissions. For AS/400 only. See "Setting permissions for AS/400" on page 77.

cat Displays the contents of a file.

cd Changes the current working directory.

chmod
Changes the permissions of files.

clear Clears the screen.

df Displays file system statistics.

dmesg
Displays the system log, see "System log".

ftp Transfers files.

id Displays the uid and gid.

ifconfig -a
Displays network interface information.

iostat Displays input/output (I/O) and central processing unit (CPU) statistics.

kill Stops processes.

ls Lists files in the current directory.

more Allows you to view a file.

mount
Displays file system mount information.

mount_rfs
Establishes a Remote File System (RFS) connection between the Network Station and the AS/400 server.

ncregget
Extracts and displays registry objects. For example `ncregget /boot/dhcp`.

netstat
Displays network statistics and information.

nfsstat
Displays information about NFS.

ping Allows you to verify TCP/IP connections between hosts.

ps Displays the processes running running on the Network Station.

pstat Displays information about the system data structures.

pwd Displays the current directory.

reboot
Re-starts the Network Station. This command only works when you are signed on as **qsecofr** on an AS/400 platform or **root** on an RS/6000 platform.

rlogin Allows you to logon to another host.

set Displays all environment variables.

set -o emacs
Allows the up and down keys to retrieve previous commands.

tar Tape archiving program. Useful for combining sets of files for distribution.

traceroute
Displays the route IP packets take to a network host.

vmstat
Displays virtual memory statistics.

Setting permissions for AS/400

On OS/400 V4R2, V4R3, and V4R4, you must set permissions on certain commands to allow users other than QSECOFR to use them. These commands are:

- df
- ps
- rcmd
- dmesg
- mount_rfs
- ping
- netstat
- nfsstat
- rlogin
- vmstat
- iostat
- pstat
- traceroute

To set the permissions for this list of commands, do following:

1. Boot your Network Station from your AS/400 server.
2. Sign on as QSECOFR.
3. From the desktop, click **Tool Kit** =>**Advanced Diagnostics**.
4. In the Advanced Diagnostics window, type **as400auth**.

The AS/400 sets the special permissions on the set of commands. You need to run the **as400auth command** only once.

Appendix A. Directory structure

This section describes the important files, directories, and client mount points found in the server directory structure.

Table 20. Substitution variables

Substitution variables	Value
$ProdBase (AS/400)	/QIBM/ProdData/NetworkStationV2
$HttpBase (AS/400)	/QIBM/ProdData/HTTP/Protect/NetworkStationV2
$ServBase (AS/400)	/QIBM/ProdData/NetworkStationV2/NSM
$UserBase (AS/400)	/QIBM/UserData/NetworkStationV2/
$ProdBase (RS/6000)	/usr/NetworkStationV2/prodbase
$ServBase (RS/6000)	/usr/NetworkStationV2/servbase
$UserBase (RS/6000)	/usr/NetworkStationV2/userbase
$ProdBase (Windows NT)	<float>\NetworkStationV2\prodbase
$ServBase (Windows NT)	<float>\NetworkStationV2\servbase
$UserBase (Windows NT)	<float>\NetworkStationV2\userbase
<float> (Windows NT)	directory where IBM Network Station Manager is installed
<user>	user name from login
<group>	group name
<ncid>	IBM Network Station host name, IP address, or MAC address
<locale>	specific locale for cultural conventions
<application>	application name
<x86|ppc>	indicates x86 or ppc directory

Table 21. Directory/file table

Directory/file	Description
$ProdBase/	Base directory for shipped files.
$ProdBase/x86	Base directory for hardware types 8363 and 8364 (Series 2200 and 2800).
$ProdBase/ppc	Base directory for hardware type-models: 8361-110, 8361-210, 8362-A22, 8362-A23, 8362-A52, and 8362-A53 (Series 300 and 1000).
$HttpBase/	Base directory for HTML files (AS/400 only).
$HttpBase/<locale>/	Directory for locale specific HTML files (AS/400 only).
$ServBase/	Base directory for IBM Network Station Manager.
$ServBase/defaults/	Directory for shipped profiles and kiosk template files.
$ServBase/defaults/<application>.ksk	Kiosk template files.
$ServBase/tools	Directory for IBM Network Station Manager command line utility files.
$UserBase/	Base directory for updated user data.
$UserBase/profiles/	Directory for download profiles.
$UserBase/profiles/shipped.nsm	Shipped profile for all Network Stations and users.

Table 21. Directory/file table (continued)

Directory/file	Description
$UserBase/profiles/allncs.nsm	IBM Network Station Manager managed system-wide profile for all Network Stations.
$UserBase/profiles/allusers.nsm	IBM Network Station Manager managed system-wide profile for all users.
$UserBase/profiles/ncs/	Directory for terminal (workstation) specific download profiles.
$UserBase/profiles/ncs/<ncid>.nsm	IBM Network Station Manager managed workstation specific profile.
$UserBase/profiles/users/	Directory for user specific download profiles.
$UserBase/profiles/users/<user>.nsm	IBM Network Station Manager managed user specific profile.
$UserBase/profiles/groups/	Directory for group specific download profiles.
$UserBase/profiles/groups/<group>.nsm	IBM Network Station Manager managed group specific profile.
$UserBase/home/	Network Station home directory.
$UserBase/home/<user>/	User's home directory.
$UserBase/nsmshared/	IBM Network Station Manager home directory for shared files. Since $UserBase/profiles/<user> may be restricted to be read by one user, use this directory structure to share files in a less restrictive environment.
$UserBase/nsmshared/<user>/	User's IBM Network Station Manager home directory for shared files.
$UserBase/nsmshared/<user>/NS3270/	Directory for shared 3270 key mapping, key pad, color mapping, and playback files. Customer defined emulator profiles are placed here and can be shared by multiple users.
$UserBase/nsmshared/<user>/NS5250/	Directory for shared 5250 key mapping, key pad, color mapping, and playback files. Customer defined emulator profiles are placed here and can be shared by multiple users.
$UserBase/nsmshared/<user>/NSTERM/	Directory for shared VT emulator key mapping files. Customer defined emulator profiles are placed here and can be shared by multiple users.
$UserBase/flash	Base directory for flash management.

Table 22. Server exports and client mount points

Server export	Client path	Description
$ProdBase/<x86|ppc>	/	Provides read-only access to the architecture-specific root file system. It is exported through RFS and TFTP, or NFS and TFTP. This mount point lasts for the life of the machine session.
$UserBase/profiles	/termbase/profiles	Provides read-only access to workstation specific configuration data. It is exported through RFS or NFS. This is a transient mount point for reading terminal profiles and is only established during the boot sequence.

Table 22. Server exports and client mount points (continued)

Server export	Client path	Description
$UserBase/profiles	/userbase/profiles	Provides read-only access to user and group specific configuration data. It is exported through RFS or NFS. The directories within this export must have appropriate permissions set to allow or limit client access as needed. This mount point lasts for the life of the user session.
$UserBase/home	/userbase/home	Provides read-write access to the user's home directory on the authentication server. It is exported through RFS or NFS. The directories within this export must have appropriate permissions set to allow or limit client access as needed. This mount point lasts for the life of the user session.
$UserBase/nsmshared	/userbase/nsmshared	Provides read-write access to the user's shared directory. It is exported through RFS or NFS. The directories within this export must have appropriate permissions set to allow or limit client access as needed. This is a transient mount point that is only established as needed by client applications.

Table 23. Windows NT exports

Directory	NFS export	TFTP export
x:\<float>\NetworkStationV2\prodbase	/NetworkStationV2/prodbase	<float>/NetworkStationV2/prodbase
x:\<float>\NetworkStationV2\userbase	/NetworkStationV2/userbase	Not exported by TFTP

Appendix B. Environment variables

Table 24 contains a list of some common environment variables. Environment variables can be used in IBM Network Station Manager and as parameters on some command line commands. The syntax is ${EnvironmentVariableName}. For example, to substitute the user ID of the person logged onto the IBM Network Station in a command, you would specify ${USER}.

Type `set | more` on the Advanced Diagnostics or telenet command line for a list of all the environment variables that are currently set. Type `echo $EnvironmentVariableName` on the Advanced Diagnostics or telenet command line to display the current value of the environment variable.

Table 24. Common environment variables

Environment Variable Name	Description
BOOT_GATEWAY	The IP address of the gateway to other subnets.
BOOT_HARDWARE_ADDRESS	The hardware MAC address of the Network Station.
BOOT_KERNEL	The name of the kernel that was used to boot the Network Station.
BOOT_NETMASK	The subnet mask of the Network Station.
BOOT_NETWORK_INTERFACE	The name of the IP network interface.
CLASSPATH	The path that the JVM searches for Java classes.
EMAIL_USERID	The user's E-mail address.
FTP_PROXY_HOST	The FTP proxy host name.
FTP_PROXY_OVERRIDES	The FTP proxy exceptions.
FTP_PROXY_PORT	The FTP proxy TCP/IP port.
FULL_NAME	The user's E-mail name.
GID	The group ID.
GOPHER_PROXY_HOST	The Gopher proxy host name.
GOPHER_PROXY_OVERRIDES	The Gopher proxy exceptions.
GOPHER_PROXY_PORT	The Gopher porxy TCP/IP port.
HOME	The path to the user's home directory.
HOME_PAGE	The browser's home page.
HOSTNAME	The name of the Network Station.
HTTP_PROXY_HOST	The HTTP proxy host name.
HTTP_PROXY_OVERRIDES	The HTTP proxy exceptions.
HTTP_PROXY_PORT	The HTTP proxy TCP/IP port.
HTTPS_PROXY_HOST	The HTTPS proxy host name.
HTTPS_PROXY_PORT	The HTTPS proxy TCP/IP port.
IPADDRESS	The IP address of the Network Station.
JAVA_LEVEL	The path to the JVM.
JAVA_HOME	The path from where the JVM is loaded.
LANG	The default locale.
LC_CTYPE	The locale to use for character use and sorts.
LC_MESSAGES	The locale to use for messages.
LC_MONETARY	The locale to use for monetary format.

Table 24. Common environment variables (continued)

Environment Variable Name	Description
LC_NUMERIC	The locale to use for numeric format.
LC_TIME	The locale to use for time and date format.
MASTER_SERVER (AUTHENTICATION_HOST)	The IP address of the authentication server.
NETSCAPE_JAVA_ARGS	The path that the Netscape JVM searches for Java classes.
NNTP_SERVER	The NNTP (News) server name.
NNTP_SERVER_PORT	The NNTP (News) server port.
NSM_HTTP_PORT	The HTTP server TCP/IP port where the Network Station Manager program is served.
POP3_SERVER	The POP3 (Incomming Mail) server name.
REPLY_TO	The E-mail reply to address.
SERVER_ADDRESS (BOOTHOST)	The IP address of the server that the Network Station booted from.
SMTP_SERVER	The SMTP (Outgoing Mail) server name.
SOCKS_HOST	The SOCKS server name.
SOCKS_PORT	The SOCKS server TCP/IP port.
TZ	The time zone.
UID	The user ID.
USER	The userid of the authenticated user.

Appendix C. Colors

The following table describes some standard colors from the browser color palette. Use these numeric values to specify colors. For example, use 0000ff to specify blue. Using colors from the browser color palette minimizes the possibility of color flash.

Color	Red	Green	Blue
Bisque	ff	cc	99
Black	00	00	00
Blue	00	00	ff
Blue - login	00	66	99
Chocolate	66	00	00
Coral	ff	99	66
Cyan	00	ff	ff
Cyan - light	99	ff	cc
Gray - light	cc	cc	cc
Gray - medium/light	99	99	99
Gray - medium/dark	66	66	66
Gray - dark	33	33	33
Green	00	ff	00
Lavender	ff	99	ff
Magenta	ff	00	ff
Orange	ff	66	00
Red	ff	00	00
White	ff	ff	ff
Yellow	ff	ff	00

Appendix D. Configuration values

This section contains a list of configuration values that can be set through the use of the IBM Network Station command line utility. For more information on the command line utility see “Chapter 7. IBM Network Station Manager command line utility” on page 35.

For each configuration value there is a table that lists several properties associated with that configuration value. The following table contains an explanation of these properties.

Takes Effect	Shows when the configuration value is applied.
Retained in Client Memory	
User Interface Path	If the configuration value can be set using the IBM Network Station Manager program, the navigation through the user interface is shown here. If the configuration value cannot be set using the IBM Network Station Manager program, the word None is shown here.
Registry Object	The registry object is shown here. You can use the **ncregget** command to display registry objects. For example to retrieve the /config registry object information, type `ncregget /config` on the Advanced Diagnostics command line.
Category	The category is shown here.
Valid Preference Levels	The preference level is shown here. The preference level determines to what scope or level that this configuration value is applied..
Value Type	The configuration value type is shown here.
Shipped Default Value	The shipped configuration value (if any) is shown here.
Allowable Values	Valid configuration values are listed here.

Boot Settings

boot-automatically

Specifies whether the terminal automatically boots or stops with the > prompt.

Takes Effect	At boot
Retained in Client Memory	Yes
User Interface Path	None
Registry Object	/config
Category	EXTERNAL
Valid Preference Levels	system, workstation
Value Type	Boolean
Shipped Default Value	true
Allowable Values	true, false

boot-desired-source

Specifies the desired source of the server code on the next boot of the workstation.

'Local' describes a number of options including PROM's, Flash Memory cards. 'prom' is an alias for 'local' provided for backwards compatibility. 'tcpip' is an alias for 'tftp' provided for backwards compatibility.

Takes Effect	At boot
Retained in Client Memory	Yes
User Interface Path	None
Registry Object	/config
Category	EXTERNAL
Valid Preference Levels	system, workstation
Value Type	Choice
Shipped Default Value	tcpip
Allowable Values	tcpip tftp nfs local prom

boot-enable-broadcast-boot

Enable broadcast boot during server download.

Takes Effect	At boot
Retained in Client Memory	Yes
User Interface Path	Hardware->Workstation:Boot Parameters: Enable Broadcast boot
Registry Object	/config
Category	WORKSTATION
Valid Preference Levels	system, workstation
Value Type	Boolean
Shipped Default Value	false
Allowable Values	true, false

boot-flash-update

Enables the check for flash image updates function. This allows the Network Station to check for and (if necessary) receive a new flash image from the boot server. If the boot server detects that the image on the Network Stationis current, no flash image is downloaded to the Network Station.

Takes Effect	At boot
Retained in Client Memory	No
User Interface Path	Hardware->Workstation:Boot Parameters: Check for Flash Image update
Registry Object	/config
Category	WORKSTATION
Valid Preference Levels	system, workstation
Value Type	Boolean
Shipped Default Value	false
Allowable Values	true, false

boot-flash-path

Specifies the directory to find the flash image. A single directory name may be specified.

Takes Effect	At boot
Retained in Client Memory	No
User Interface Path	Hardware->Workstation:Boot Parameters: Flash Image directory
Registry Object	/config
Category	WORKSTATION
Valid Preference Levels	system, workstation
Value Type	String
Shipped Default Value	Default
Allowable Values	

boot-persistent-retry-count

Specifies the number of times to retry loading the operating system.

Takes Effect	At boot
Retained in Client Memory	Yes
User Interface Path	Hardware->Workstation:Boot Parameters: Number of times to retry loading operating system
Registry Object	/config
Category	WORKSTATION
Valid Preference Levels	system, workstation
Value Type	Integer
Shipped Default Value	0
Allowable Values	0-4294967295

boot-prom-force-update

If true, force the unit to accept the boot prom update file specified in boot-prom-update-file (even if it is a back level).

Takes Effect	At boot
Retained in Client Memory	No
User Interface Path	None
Registry Object	/config
Category	EXTERNAL
Valid Preference Levels	system, workstation
Value Type	Boolean
Shipped Default Value	false
Allowable Values	true, false

boot-prom-language

Specifies the language to use during the boot sequence.

Takes Effect	At boot
Retained in Client Memory	Yes
User Interface Path	Hardware->Workstation:Boot Parameters: Language to be used during boot sequence
Registry Object	/config
Category	WORKSTATION
Valid Preference Levels	system, workstation
Value Type	CHOICE
Shipped Default Value	english
Allowable Values	english, french, german, italian, spanish

boot-prom-update-file

When a non-null path is specified the Network Station attempts to update the boot prom to the image specified.

Attention: Do NOT turn off power to the Network Station while the boot prom is being updated.

Takes Effect	At boot
Retained in Client Memory	No
User Interface Path	None
Registry Object	/config
Category	WORKSTATION
Valid Preference Levels	system, workstation
Value Type	String
Shipped Default Value	nil
Allowable Values	Any valid pathname

boot-second-source

Specifies a fallback source of the server code on the next boot of the terminal.

Takes Effect	At boot
Retained in Client Memory	Yes
User Interface Path	None
Registry Object	/config
Category	EXTERNAL
Valid Preference Levels	system, workstation
Value Type	Choice
Shipped Default Value	not shipped, defaults to ″none″
Allowable Values	none, tcpip, tftp, nfs, local, prom

boot-tcpip-broadcast-boot-request

Specifies that the boot monitor should broadcast download file requests. Note that this option can produce a lot of network traffic.

Takes Effect	At boot
Retained in Client Memory	Yes
User Interface Path	None
Registry Object	/config
Category	EXTERNAL
Valid Preference Levels	system, workstation
Value Type	Boolean
Shipped Default Value	true
Allowable Values	true, false

boot-tcpip-desired-server

Specifies the IP address of the boot server when the desired boot source is TCP/IP or NFS.

Takes Effect	At boot
Retained in Client Memory	Yes
User Interface Path	None
Registry Object	/config
Category	EXTERNAL
Valid Preference Levels	system, workstation
Value Type	String
Shipped Default Value	not shipped
Allowable Values	Any ip address in dotted notation

boot-tcpip-second-server

Specifies the IP address of the secondary boot server when the desired boot source is TCP/IP, TFTP, or NFS.

Takes Effect	At boot
Retained in Client Memory	Yes
User Interface Path	None
Registry Object	/config
Category	EXTERNAL
Valid Preference Levels	system, workstation
Value Type	String
Shipped Default Value	not shipped, default is 0.0.0.0
Allowable Values	Any IP Address in dotted notation

boot-tcpip-third-server

Specifies the IP address of the tertiary boot server when the desired boot source is TCP/IP, TFTP, or NFS.

Takes Effect	At boot
Retained in Client Memory	Yes
User Interface Path	None
Registry Object	/config
Category	EXTERNAL
Valid Preference Levels	system, workstation
Value Type	String
Shipped Default Value	not shipped
Allowable Values	Any IP Address in dotted notation

boot-test-ram

Specifies whether RAM self tests are performed at power up. It is suggested that this self test not be disabled.

Takes Effect	At boot
Retained in Client Memory	Yes
User Interface Path	Hardware->Workstation: Boot Parameters: Enable memory test
Registry Object	/config
Category	WORKSTATION
Valid Preference Levels	system, workstation
Value Type	Boolean
Shipped Default Value	true
Allowable Values	true, false

boot-third-source

Specifies a fallback source of the server code on the next boot of the terminal.

Takes Effect	At boot
Retained in Client Memory	Yes

User Interface Path	None
Registry Object	/config
Category	WORKSTATION
Valid Preference Levels	system, workstation
Value Type	Choice
*shipped default value	no shipped value; boot code defaults to none
Allowable Values	none, tcpip, tftp, nfs, local, prom

boot-token-ring-update-file

When a non-null path is specified the terminal attempts to update the token ring prom to the image specified.

Attention: Do NOT turn off power to the terminal while the token ring prom is being updated.

Takes Effect	At boot
Retained in Client Memory	No
User Interface Path	None
Registry Object	/config
Category	WORKSTATION
Valid Preference Levels	system, workstation
Value Type	String
*shipped default value	nil
Allowable Values	any valid file name

File Parameters

file-initial-protocol-1

Specifies the file service protocol to be used in conjunction with the primary initial file server.

Takes Effect	At boot
Retained in Client Memory	Yes
User Interface Path	None
Registry Object	/config
Category	EXTERNAL
Valid Preference Levels	system, workstation
Value Type	Choice
Shipped Default Value	not shipped
Allowable Values	tftp, nfs, local, use-boot-protocol

file-initial-protocol-2

Specifies the file service protocol to be used in conjunction with the secondary initial file server.

Takes Effect	At boot

Retained in Client Memory	Yes
User Interface Path	None
Registry Object	/config
Category	EXTERNAL
Valid Preference Levels	system, workstation
Value Type	Choice
Shipped Default Value	not shipped
Allowable Values	tftp, nfs, local, use-boot-protocol

file-initial-server-1

Specifies the host to be used as the primary file server at boot time to load the initial config file. A value of 0.0.0.0 implies that the boot server should be used for this value.

Takes Effect	At boot
Retained in Client Memory	Yes
User Interface Path	None
Registry Object	/config
Category	EXTERNAL
Valid Preference Levels	system, workstation
Value Type	IP Address
Shipped Default Value	not shipped
Allowable Values	Valid IP address in dotted decmial notation

file-initial-server-2

Specifies the host to be used as the secondary file server at boot time to load the initial config file. A value of 0.0.0.0 implies that the boot server should be used for this value.

Takes Effect	At boot
Retained in Client Memory	Yes
User Interface Path	None
Registry Object	/config
Category	EXTERNAL
Valid Preference Levels	system, workstation
Value Type	IP Address
Shipped Default Value	not shipped
Allowable Values	Valid IP address in dotted decmial notation

IP Parameters

ip-address-at-next-boot

Specifies the IP address for the unit the next time it is booted.

Note that if the current IP address is 0.0.0.0, the value of this parameter is used immediately as the current IP address. Otherwise, the current IP address cannot be modified while the unit is running because this would lead to unexpected behaviors on both the unit and any connected hosts.

Takes Effect	At boot
Retained in Client Memory	Yes
User Interface Path	None
Registry Object	/config
Category	EXTERNAL
Valid Preference Levels	system, workstation
Value Type	IP Address
Shipped Default Value	No shipped default; boot code defaults to 0.0.0.0
Allowable Values	Valid IP addrss in dotted decimal notation.

ip-initial-default-gateway-1

Specifies the primary default IP gateway to be used initially in the IP routing table. The IP routing table can change over time due to normal operation and various management events.

Takes Effect	At boot
Retained in Client Memory	Yes
User Interface Path	None
Registry Object	/config
Category	EXTERNAL
Valid Preference Levels	system, workstation
Value Type	IP Address
Shipped default value	not shipped
Allowable Values	IP Address in dotted decimal notation

ip-initial-default-gateway-2

Specifies the secondary default IP gateway to be used initially in the IP routing table. The IP routing table can change over time due to normal operation and various management events.

Takes Effect	At boot
Retained in Client Memory	Yes
User Interface Path	None
Registry Object	/config
Category	EXTERNAL
Valid Preference Levels	system, workstation
Value Type	IP Address
Shipped default value	not shipped
Allowable Values	IP Address in dotted decimal notation

ip-subnet-mask

Specifies the IP subnet mask that is used to determine which portion of the unit's IP address corresponds to the network number and which portion to the host number.

Takes Effect	At boot
Retained in Client Memory	Yes
User Interface Path	None
Registry Object	/config
Category	EXTERNAL
Valid Preference Levels	system, workstation
Value Type	Integer
Shipped default value	not shipped
Allowable Values	

ip-use-address-discovery

Specifies that IP addresses supplied via DHCPor BOOTP should be used, if available.

Takes Effect	At boot
Retained in Client Memory	Yes
User Interface Path	Hardware->Workstation: Boot Parameters: Enable Boot using BOOTP or DHCP
Registry Object	/config
Category	WORKSTATION
Valid Preference Levels	system, workstation
Value Type	Boolean
Shipped default value	not shipped
Allowable Values	true, false

Parallel

parallel-daemons-table

Specifies the table of parallel daemon parameters.

Takes Effect	At Workstation Init
Retained in Client Memory	No
User Interface Path	None
Registry Object	/config
Category	WORKSTATION
Valid Preference Levels	system, workstation
Value Type	Table
Shipped default value	See the following tables
Allowable Values	See the following tables

port-number

The name of the parallel port.

Value Type	Integer
Shipped default value	1
Allowable Values	1 to 2

use-parallel-protocol

Specifies that the parallel daemon control protocol should be used. Note that this could cause some data loss if enabled with old host software.

Value Type	Boolean
Shipped default value	false
Allowable Values	true, false

tcp-port

Specifies the TCP port on which the terminal listens for raw TCP connections to the parallel daemon.

Value Type	Integer
Shipped default value	5,964
Allowable Values	1 - 65535

Hardware preference related parameters

anti-aliasing

Indicates if smooth scaling of fonts should be enabled.

Takes Effect	At Workstation Init
Retained in Client Memory	No
User Interface Path	Hardware->Workstation: Monitor Settings: Smooth Character Drawing (anti-aliasing)
Registry Object	/config
Category	WORKSTATION
Valid Preference Levels	system, workstation
Value Type	Choice
Shipped default value	on
Allowable Values	on, off

monitor-resolution

Takes Effect	At Workstation Init
Retained in Client Memory	
User Interface Path	Hardware->Workstation: Monitor Settings: Preferred monitor resolution
Registry Object	/config

Category	WORKSTATION
Valid Preference Levels	system, workstation
Value Type	Choice
Shipped default value	default
Allowable Values	default, 640x480, 800x600, 1024x768, 1280x1024, 1600x1200

monitor-type

Indicates the type of monitor that is attached to the network station. Primarily used to signal if the calibration utilities is to be started on the client.

Takes Effect	At boot
Retained in Client Memory	No
User Interface Path	Hardware->Workstation: Monitor Settings: Type of monitor
Registry Object	/config
Category	WORKSTATION
Valid Preference Levels	system, workstation
Value Type	Choice
Shipped default value	default
Allowable Values	default, elotouchscreen, ibmtouchscreen, lightpen

pref-mouse-acceleration

Specifies the percentage by which physical mouse motion past the mouse threshold has been passed should be multipled to obtain the distance traveled by the pointer cursor. A value of less than 100 makes the mouse slower; a value over than 100 makes it faster.

Takes Effect	At Workstation Initialization, At Login
Retained in Client Memory	No
User Interface Path	Hardware->Workstation:Mouse Settings: Pointer Speed
Registry Object	/config
Category	WORKSTATION
Valid Preference Levels	system, usergroup, user
Value Type	Integer
Shipped default value	300
Allowable Values	10 - 1000

pref-mouse-arrangement

Specifies whether the mouse buttons are mapped with Button1 at the right or left

Takes Effect	At Workstation Init, At Login
Retained in Client Memory	No
User Interface Path	Hardware->Workstation:Mouse Settings: Button Configuration
Registry Object	/config

Category	WORKSTATION
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	right-handed
Allowable Values	right-handed, left-handed

pref-power-manage-powerdown-time

How long the terminal needs to be idle (in minutes) before the transition to the power down.

Takes Effect	At workstation Initialization
Retained in Client Memory	No
User Interface Path	Hardware->Workstation: Monitor Settings: Minutes before monitor power down
Registry Object	/config
Category	WORKSTATION
Valid Preference Levels	system, workstation
Value Type	Integer
*shipped default value	60
Allowable Values	0-240

pref-power-manage-standby-time

How long the terminal needs to be idle (in minutes) before the transition to the standby state.

Takes Effect	At workstation Initialization
Retained in Client Memory	No
User Interface Path	Hardware->Workstation: Monitor Settings: Minutes before monitor standby
Registry Object	/config
Category	WORKSTATION
Valid Preference Levels	system, workstation
Value Type	Integer
*shipped default value	20
Allowable Values	0-240

pref-power-manage-suspend-time

How long the terminal needs to be idle (in minutes) before the transition to the suspend state.

Takes Effect	At Workstation Initialization
Retained in Client Memory	No
User Interface Path	Hardware->Workstation: Monitor Settings: Minutes before monitor suspend
Registry Object	/config
Category	WORKSTATION
Valid Preference Levels	system, workstation

Value Type	Integer
Shipped default value	40
Allowable Values	0-240

pref-screen-color-depth

Determines the number of colors available to applications that use color support. The Network Stations support 8–bit or 16–bit colors per pixel. 8–bit indicates 256 colors are available to use. 16–bit indicates that 65,536 colors are available to use.

Takes Effect	At Workstation Init
Retained in Client Memory	No
User Interface Path	Hardware->Workstation: Monitor Settings: Color depth configuration
Registry Object	/config
Category	WORKSTATION
Valid Preference Levels	system, workstation
Value Type	Choice
Shipped default value	not shipped, 8
Allowable Values	8, 16

pref-screen-background-bitmap-background

Specifies the color to use for the background of the screen background bitmap. Specifying a color using this preference will override the color specified in the current theme. See “Appendix C. Colors” on page 85 for more information on how to specify colors.

Takes Effect	At Workstation Init
Retained in Client Memory	No
User Interface Path	Hardware->Workstation: Monitor Settings: Desktop background color
Registry Object	/config
Category	WORKSTATION
Valid Preference Levels	system, usergroup, user
Value Type	String
Shipped default value	not shipped, defaults from theme
Allowable Values	000000 - ffffff

pref-screen-background-bitmap-file

The name of an XBM image to tile on the screen background if the background type is ″bitmap″. Overrides desktop background specified in the current theme.

Takes Effect	At Workstation Init: At Login
Retained in Client Memory	No
User Interface Path	Hardware->Workstation: Monitor Settings: Desktop background: Custom background image path
Registry Object	/config

Category	WORKSTATION
Valid Preference Levels	system, usergroup, user, workstation
Value Type	String
Shipped default value	not shipped
Allowable Values	

pref-screen-background-bitmap-foreground

The foreground color to use with tiling the background if the background type is ″bitmap″. See “Appendix C. Colors” on page 85 for more information on how to specify colors.

Takes Effect	At Workstation Initialization,At Login
Retained in Client Memory	No
User Interface Path	Hardware->Workstation: Monitor Settings: Desktop background: Foreground color
Registry Object	/config
Category	WORKSTATION
Valid Preference Levels	system, usergroup, user, workstation
Value Type	String
*shipped default value	no shipped value; default from theme
Allowable Values	000000 - ffffff

pref-screen-background-color

The background color to use when tiling the background if the background type is ″bitmap″. See “Appendix C. Colors” on page 85 for more information on how to specify colors.

Takes Effect	At Workstation Initialization,At Login
Retained in Client Memory	No
User Interface Path	None
Registry Object	/config
Category	WORKSTATION
Valid Preference Levels	system, usergroup, user, workstation
Value Type	String
Shipped default value	no shipped value; default from theme
Allowable Values	000000 - ffffff

pref-screen-background-type

The type of background image to display. Specifying ″bitmap″ or ″solid-color″ will override the value set by the current theme.

Takes Effect	At Workstation Initialization,At Login
Retained in Client Memory	No
User Interface Path	None
Registry Object	/config
Category	WORKSTATION

Valid Preference Levels	system, usergroup, user, workstation
Value Type	Choice
*shipped default value	not shipped, default from theme
Allowable Values	default, bitmap, solid-color

pref-screensaver-bitmap-file

Specifies the bitmap file to use if the screen saver is using Bitmap mode.

Takes Effect	At Workstation Initialization,At Login
Retained in Client Memory	No
User Interface Path	Hardware->Workstation: Monitor Settings: Screen saver: Custom screen saver path
Registry Object	/config
Category	WORKSTATION
Valid Preference Levels	system, usergroup, user
Value Type	String
*shipped default value	nil
Allowable Values	Valid filename to bitmap file

pref-screensaver-enable

Enable or disable the screen saver. This is the value that is consulted for the default screen saver setting. The user can override this setting using the ″Enable Screen Saver″ or ″Disable Screen Saver″ option on the root menu. Once the user makes a change, it is stored as ″screen_saver″ within the ″desktop/preferences″ registry item.

Takes Effect	At Workstation Init;, At Login
Retained in Client Memory	No
User Interface Path	None
Registry Object	/config
Category	WORKSTATION
Valid Preference Levels	system, user, usergroup
Value Type	Boolean
*shipped default value	true
Allowable Values	true, false

pref-screensaver-interval

Specifies how many seconds the screen saver waits before modifying its pattern.

Takes Effect	At Workstation Init, At Login
Retained in Client Memory	No
User Interface Path	None
Registry Object	/config
Category	EXTERNAL
Valid Preference Levels	system, usergroup, user

Value Type	Integer
Shipped default value	3
Allowable Values	0-3000

pref-screensaver-style

The style of screen saver to be displayed.

Takes Effect	At Workstation Initialization, At Login
Retained in Client Memory	No
User Interface Path	Hardware->Workstation: Monitor Settings: Screen Saver
Registry Object	/config
Category	WORKSTATION
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	bitmap (IBM)
Allowable Values	blank, bitmap, ball

pref-screensaver-time

The time in seconds to wait before the screen saver activates due to no input activity.

Takes Effect	At Workstation Initialization, At Login
Retained in Client Memory	No
User Interface Path	Hardware->Workstation: Monitor Settings: Minutes before screen saver turns on
Registry Object	/config
Category	WORKSTATION
Valid Preference Levels	system, usergroup, user
Value Type	Integer
Shipped default value	600 (10 minutes)
Allowable Values	0 - 3000

Serial Device Settings

serial-access-control-enabled

Specifies whether xhost-style access control is on or off for requests to connect to the serial or parallel port daemon.

Takes Effect	At Workstation Init
Retained in Client Memory	No
User Interface Path	Hardware->
Registry Object	/config
Category	DEVICE
Valid Preference Levels	system, workstation

Value Type	Boolean
Shipped default value	false
Allowable Values	true, false

serial-access-control-list

Specifies the host access control list for the serial or parallel port daemon.

Takes Effect	At Workstation Init
Retained in Client Memory	No
User Interface Path	Hardware->
Registry Object	/config
Category	DEVICE
Valid Preference Levels	system, workstation
Value Type	Table
Shipped default value	See the following tables
Allowable Values	See the following tables

The following are valid attributes for each row entry in the table:

host

Specifies the network name/address of a node granted permission to remotely access the serial or parallel port daemon.

Value Type	String
Shipped default value	localhost
Allowable Values	Valid host name or IP Address

family

Specifies the type of network connection for which this entry applies.

Value Type	Choice
Default Value	tcpip
Allowable Values	tcpip

serial-daemons-table

Specifies the table of serial daemon parameters.

Takes Effect	At Workstation Init
Retained in Client Memory	No
User Interface Path	Hardware->Serial Devices or Hardware->Printers
Registry Object	/config
Category	DEVICE
Valid Preference Levels	system, workstation

Value Type	Table
Shipped default value	See the following tables
Allowable Values	See the following tables

The following are valid attributes for each row entry in the table:

port-number

The name of the serial port.

Retained in Client Memory	No
Value Type	Integer
Allowable Values	1 to 18

use-serial-protocol

Specifies that the new serial daemon control protocol should be used. Note that this could cause some data loss if enabled with old host software.

Retained in Client Memory	No
Value Type	Boolean
Allowable Values	true, false

tcp-port

Specifies the TCP port on which the terminal listens for raw TCP connections to the serial

daemon.

Retained in Client Memory	No
Value Type	Integer
Allowable Values	1 to 65535

The following are the table entries that are shipped as defaults for the IBM Network Station Manager program:

port-number	use-serial-protocol	tcp-port
1	false	87
2	false	5962
3	false	5963
4	false	5966
5	false	5967
6	false	5968
7	false	5969
8	false	5970
9	false	5971
10	false	5972

11	false	5973
12	false	5974
13	false	5975
14	false	5976
15	false	5977
16	false	5978
17	false	5979
18	false	5980

serial-interfaces-table

Specifies the table of serial port parameters.

Takes Effect	At Workstation Init
Retained in Client Memory	Yes
User Interface Path	Hardware->Serial Devices or Hardware->Printers
Registry Object	/config
Category	DEVICE
Valid Preference Levels	system, workstation
Value Type	Table
Shipped default value	See the following tables
Allowable Values	See the following tables

The following are valid attributes for each table row entry:

port-number

The name of the serial port.

Retained in Client Memory	No
Value Type	Integer
Allowable Values	1 to 18

mode

Specifies what the serial port should be used for, but takes effect the next time the unit

is booted. The choices 'Printer' and 'Serial Daemon' are equivalent.

Retained in Client Memory	Yes
Value Type	Choice
Allowable Values	terminal, printer, serial-daemon, slip, console, input-device, xremote, ppp

current-mode

Specifies what the serial port should be used for. Any change takes effect immediately, but the value of this parameter is ignored at boot time in favor of the 'mode' value.

Retained in Client Memory	No
Value Type	Choice
Allowable Values	terminal, printer, serial-daemon, slip, console, input-device, xremote, ppp

baud-rate

Specifies the baud rate of the serial port. Many of the baud rates are provided for historical reasons and may not all be supported directly on the hardware.

Retained in Client Memory	Yes
Value Type	Choice
Allowable Values	50, 75, 110, 134.5, 150, 200, 300, 600, 1050, 1200, 1800, 2000, 2400, 4800, 7200, 9600, 14400, 19200, 38400, 57600, 76800, 115200

data-bits

Specifies the number of data bits per character of the serial port.

Retained in Client Memory	Yes
Value Type	Choice
Allowable Values	8, 7

stop-bits

Specifies the number of stop bits per character of the serial port.

Retained in Client Memory	Yes
Value Type	Choice
Allowable Values	1, 2

parity

Specifies the form of parity generated by and expected by the serial port.

Retained in Client Memory	Yes
Value Type	Choice
Allowable Values	none, odd, even, space, mark

handshake

Specifies the type of flow control of the serial port.

Retained in Client Memory	Yes
Value Type	Choice

Allowable Values	none, xon/xoff, dtr/dsr, rts/cts

hangup

Specifies what a local NCDterm client will do when closing the serial port. Also specifies what the serial daemon will do to signal the end of a network connection.

Retained in Client Memory	No
Value Type	Choice
Allowable Values	none, drop-dtr, send-break

The following table provides the shipped default values:

portnumber	mode	current mode	baud rate	data-bits	stop-bits	parity	handshake	hangup
1	printer	printer	9600	8	1	none	dtr/dsr	none
2	printer	printer	9600	8	1	none	dtr/dsr	none
3	printer	printer	9600	8	1	none	dtr/dsr	none
4	printer	printer	9600	8	1	none	dtr/dsr	none
5	printer	printer	9600	8	1	none	dtr/dsr	none
6	printer	printer	9600	8	1	none	dtr/dsr	none
7	printer	printer	9600	8	1	none	dtr/dsr	none
8	printer	printer	9600	8	1	none	dtr/dsr	none
9	printer	printer	9600	8	1	none	dtr/dsr	none
10	printer	printer	9600	8	1	none	dtr/dsr	none
11	printer	printer	9600	8	1	none	dtr/dsr	none
12	printer	printer	9600	8	1	none	dtr/dsr	none
13	printer	printer	9600	8	1	none	dtr/dsr	none
14	printer	printer	9600	8	1	none	dtr/dsr	none
15	printer	printer	9600	8	1	none	dtr/dsr	none
16	printer	printer	9600	8	1	none	dtr/dsr	none
17	printer	printer	9600	8	1	none	dtr/dsr	none
18	printer	printer	9600	8	1	none	dtr/dsr	none

SNMP Settings

snmp-trap-to-config-port

Specifies the port to send the cold start trap. Default value is the standard SNMP trap port.

Takes Effect	At Workstation Init
Retained in Client Memory	No
User Interface Path	None
Registry Object	/config
Category	EXTERNAL

Valid Preference Levels	system, workstation
Value Type	Integer
Shipped default value	162
Allowable Values	0 - 65535

snmp-trap-to-config-server

Specifies whether the cold start trap will be sent to the host from which the initial configuration file was read.

Takes Effect	At Workstation Init
Retained in Client Memory	No
User Interface Path	None
Registry Object	/config
Category	EXTERNAL
Valid Preference Levels	system, workstation
Value Type	Boolean
Shipped default value	true
Allowable Values	true, false

snmp-read-only-community

Specifies the first of two possible community names that can be specified in SNMP requests to obtain read-only access to configuration information.

Takes Effect	At Workstation Init
Retained in Client Memory	Yes
User Interface Path	Hardware->Workstation: Workstation Management Settings: SNMP Read Community Name
Registry Object	/config
Category	WORKSTATION
Valid Preference Levels	system, workstation
Value Type	String
Shipped default value	public
Allowable Values	

snmp-read-only-community-alt

Specifies the second of two possible community names that can be specified in SNMP requests to obtain read-only access to configuration information.

Takes Effect	At Workstation Init
Retained in Client Memory	Yes
User Interface Path	Hardware->Workstation: Workstation Management Settings: SNMP Read Community Name Alternate
Registry Object	/config
Category	WORKSTATION

Valid Preference Levels	system, workstation
Value Type	String
Shipped default value	not shipped
Allowable Values	

snmp-read-write-community

Specifies the first of two possible community names that can be specified in SNMP requests to obtain read-write access to configuration information.

Takes Effect	At Workstation Init
Retained in Client Memory	Yes
User Interface Path	Hardware->Workstation: Workstation Management Settings: SNMP Read/Write Community
Registry Object	/config
Category	WORKSTATION
Valid Preference Levels	system, workstation
Value Type	String
Shipped default value	not shipped
Allowable Values	

snmp-read-write-community-alt

Specifies the second of two possible community names that can be specified in SNMP requests to obtain read-write access to configuration information.

Takes Effect	At Workstation Init
Retained in Client Memory	Yes
User Interface Path	Hardware->Workstation: Workstation Management Settings: SNMP Read/Write Community Alternate
Registry Object	/config
Category	WORKSTATION
Valid Preference Levels	system, workstation
Value Type	String
Shipped default value	not shipped
Allowable Values	

unit-contact

Specifies the administrative contact for the unit. This is provided as a convience for system administration personnel.

Takes Effect	At Workstation Init
Retained in Client Memory	No
User Interface Path	Hardware->Workstation: Workstation Management Settings: Contact person
Registry Object	/config

Category	WORKSTATION
Valid Preference Levels	system, workstation
Value Type	String
Shipped default value	nil
Allowable Values	

unit-global-password

Specifies the password required to obtain read-write access to the Boot Setup, Telnet, and SNMP and other daemons.

Takes Effect	At workstation Init
Retained in Client Memory	Yes
User Interface Path	Hardware->Workstation: Workstation Management Settings: Administrator password
Registry Object	/config
Category	WORKSTATION
Valid Preference Levels	system, workstation
Value Type	Encoded String
Shipped default value	nil
Allowable Values	

unit-initial-locale

Initial locale for the Network Station. This value is set by install to reflect the locale of the server at the system wide level for workstations (system).

Takes Effect	At Workstation Init
Retained in Client Memory	No
User Interface Path	None
Registry Object	/config
Category	EXTERNAL
Valid Preference Levels	system, workstation
Value Type	Choice
Shipped default value	en_US
Allowable Values	da_DK, de_CH, de_DE, en_US, es_ES, fi_FI, fr_BE, fr_CA, fr_CH, fr_FR, it_CH, it_IT, nl_BE, nl_NL, no_NO, pt_BR, pt_PT, sv_SE See “Appendix F. Language and locale” on page 175 for a description of these values.

unit-location

Specifies the physical location of the unit. This is provided as a convience for system administration personnel.

Takes Effect	At Workstation Init

Retained in Client Memory	No
User Interface Path	Hardware->Workstation:
Registry Object	/config
Category	WORKSTATION
Valid Preference Levels	system, workstation
Value Type	String
Shipped default value	nil
Allowable Values	

TCPIP

tcpip-name-servers-1

Takes Effect	
Retained in Client Memory	
User Interface Path	
Registry Object	/config
Category	EXTERNAL
Valid Preference Levels	
Value Type	
Shipped default value	Not shipped
Allowable Values	

tcpip-name-servers-2

Takes Effect	
Retained in Client Memory	
User Interface Path	
Registry Object	/config
Category	EXTERNAL
Valid Preference Levels	
Value Type	
Shipped default value	Not shipped
Allowable Values	

Xserver Settings

xserver-access-control-enabled

Determines whether or not xhost-style access control is enabled on the client. When set to ″false″, any client can connect from any host. When set to ″true″, only clients on the specified host list can connect..

Takes Effect	At Workstation Initialization, At Login
Retained in Client Memory	No

User Interface Path	Hardware->Workstation: Local Services: Allow remote X Clients
Registry Object	/config
Category	WORKSTATION
Valid Preference Levels	system, usergroup, workstation, user
Value Type	Boolean
Shipped default value	true
Allowable Values	true, false

xserver-access-control-enabled-default

Specifies whether xhost-style access control is on or off by default for client connections.

Specifies the default value to be used for the companion option ″xserver-access-control-enabled″.

Takes Effect	At Workstation Init
Retained in Client Memory	No
User Interface Path	None
Registry Object	/config
Category	WORKSTATION
Valid Preference Levels	system, usergroup, user, workstation
Value Type	Boolean
Shipped default value	true
Allowable Values	true, false

xserver-access-control-list

This is a list of host names and address families for the hosts that clients may connect from using xhost-style authentication. Each list element must contain at least the field ″host″, which indicates the hostname or IP address of the host that is permitted access. List elements may also contain the field ″field″, which indicates the address family that is allowed access. The only supported address family is ″tcpip″, which is also the default. Hosts for other address families are ignored.

Takes Effect	At Workstation Initialization, At Login
Retained in Client Memory	No
User Interface Path	None
Registry Object	/config
Category	EXTERNAL
Valid Preference Levels	system, workstation, usergroup, user
Value Type	Table
Shipped default value	<blank>
Allowable Values	

host

Specifies the name of the host that is granted access to make connections to the server.

Retained in Client Memory	No
Value Type	String
Allowable Values	

family

The access control family to which this entry applies.

Retained in Client Memory	No
Value Type	Choice
Allowable Values	tcpip

xserver-initial-x-resources

This is a string to be set as the initial resource list on the X server's root window. Its syntax must conform to that of the X resource file format.

Takes Effect	At Workstation Init
Retained in Client Memory	No
User Interface Path	None
Registry Object	/config
Category	EXTERNAL
Valid Preference Levels	system, workstation
Value Type	String
Shipped default value	not shipped
Allowable Values	

Print

print-access-control-enabled

Indicates whether to check the access control list.

Takes Effect	At Workstation Init
Retained in Client Memory	No
User Interface Path	Hardware->Printers: Printer Services
Registry Object	/config
Category	DEVICE
Valid Preference Levels	system, workstation
Value Type	Boolean
Shipped default value	false
Allowable Values	true, false

print-access-control-list

Specifies the list of IP hosts that are allowed access to the print daemon

Takes Effect	At Workstation Init
Retained in Client Memory	No
User Interface Path	Hardware->Printers: Printer Services
Registry Object	/config
Category	DEVICE
Valid Preference Levels	system, workstation
Value Type	Table
Shipped default value	See the following tables
Allowable Values	See the following tables

The following attribute is valid for each table entry:

host

Specifies the network name/address of a node granted permission to access the print daemon.

Value Type	String
Default Value	localhost
Allowable Values	IP address or host name

print-lpd-cache-size

Maximum percentage of available memory LPD will allocate for print job

Takes Effect	At Workstation Init
Retained in Client Memory	No
User Interface Path	Hardware->Printers: Print Services: Print server (LPD): Maximum LPD buffer size
Registry Object	/config
Category	DEVICE
Valid Preference Levels	system, workstation
Value Type	Integer
Shipped default value	10
Allowable Values	0 - 95

print-lpd-stream-large-jobs

Indicates whether incoming jobs that overflow the cache are switched to streaming mode

Takes Effect	At Workstation Init
Retained in Client Memory	No
User Interface Path	Hardware->Printers: Print Services: Print server (LPD): Maximum LPD buffer size
Registry Object	/config
Category	DEVICE
Valid Preference Levels	system, workstation

Value Type	Boolean
Shipped default value	true
Allowable Values	true, false

print-lpr-servers

Print server information

Takes Effect	At Workstation Init
Retained in Client Memory	No
User Interface Path	Hardware->Printers
Registry Object	/config
Category	DEVICE
Valid Preference Levels	system, workstation
Value Type	Table
Shipped default value	<blank>
Allowable Values	

The following attributes are valid for each table entry:

server

server name

Value Type	String
Allowable Values	

queue-name

Name of print queue.

Value Type	String
Default Value	nil
Allowable Values	

datastream-type

Datastream type

Value Type	String
Default Value	not shipped
Allowable Values	

description

description

Value Type	String
Default Value	not shipped
Allowable Values	

transform-file

full path to transform file

Value Type	String
Default Value	not shipped
Allowable Values	

dbcs-type

DCBS type

Value Type	String
Default Value	not shipped
Allowable Values	

print-resolution

print resolution

Value Type	String
Default Value	not shipped
Allowable Values	

dbcs-font-encoding

DBCS font encoding

Value Type	String
Default Value	not shipped
Allowable Values	

request-banner-page

request banner page

Value Type	Boolean
Default Value	not shipped
Allowable Values	true, false

use-as-default

indicates whether this entry should be the default

Value Type	Boolean
Default Value	not shipped
Allowable Values	true, false

print-lprd-cache-size

Maximum percentage of available memory LPRD will allocate for print job

Takes Effect	At Workstation Init
Retained in Client Memory	No
User Interface Path	Hardware-> Printers: Print Services: Print Client (LPR): Maximum LPR buffer size
Registry Object	/config
Category	DEVICE
Valid Preference Levels	system, workstation
Value Type	Integer
Shipped default value	10
Allowable Values	0 - 95

Desktop Settings

collapsed

Sets whether or not the application launch bar on the left of the screen starts open (no) or collapsed (yes).

Takes Effect	At Destkop Init (login)
Retained in Client Memory	No
User Interface Path	Desktop->Display: Launch bar options: Collapsed
Registry Object	/desktop/preferences
Category	DESKTOP
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	not shipped; the default is no
Allowable Values	yes, no

confirm_logoff

Takes Effect	At Desktop Init
Retained in Client Memory	No
User Interface Path	None
Registry Object	/desktop/preferences
Category	DESKTOP
Valid Preference Levels	system, usergroup, user, workstation
Value Type	Choice
Shipped default value	not shipped

Allowable Values	yes, no

confirm_logoff_system_modal

Takes Effect	At Desktop Init
Retained in Client Memory	No
User Interface Path	None
Registry Object	/desktop/preferences
Category	DESKTOP
Valid Preference Levels	system, usergroup, user, workstation
Value Type	Choice
*shipped default value	not shipped; the default is yes
Allowable Values	yes, no

constrained_mode

Sets whether or not windows are constrained to be on-screen, or if they can be moved off-screen.

Takes Effect	At Desktop Init
Retained in Client Memory	No
User Interface Path	Desktop->Display: Window Appearance: Constrained mode
Registry Object	/desktop/preferences
Category	DESKTOP
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	no
Allowable Values	yes, no

current_theme

This is the name of the color theme that is currently in use. A theme specifies the attributes for colors, screensaver, and background images to be used within the desktop. Available color themes are stored in ″/usr/local/nc/registry/desktop/themes″.

Takes Effect	At Desktop init
Retained in Client Memory	No; retained in user's desktop profile if root-menu is enabled
User Interface Path	Desktop->Display : Window Appearance : Desktop Color Theme
Registry Object	/desktop/preferences
Category	DESKTOP
Valid Preference Levels	system, usergroup, user, workstation
Value Type	choice
Shipped default value	BLUE

Allowable Values	BLUE = Blue BLUES = Dark/Light Blue BRICK = Brick Wall CHAIN = Chain Link Fence DROPS = Water Drops EBIZ = e Business GREEN = Green KHAKI = Khaki LAWN = Lawn MAUVE = mauve MIDNIGHT = Midnight NSKEY = Series 2800 NSTFT = Network Station OCEAN = Kids in Ocean PLUM = Plum PURPLE = Purple SPACE = Kids in Space STARS = Star in Night Sky TAN = Tan WATER = Choppy Water <File Name> = Custom theme file

desktop_font_size

The point size of the font that the desktop uses on the icon bar and memory meter.

Takes Effect	At Desktop Init
Retained in Client Memory	No
User Interface Path	None
Registry Object	/desktop/preferences
Category	DESKTOP
Valid Preference Levels	system, usergroup, user
Value Type	Integer
Shipped default value	not shipped; desktop default is 12
Allowable Values	8, 10, 12, 14, 18, 24

help_button

Specifies if help button icon should be displayed on the launch bar. Simliar to show_help_button.

Takes Effect	At Desktop Init
Retained in Client Memory	No
User Interface Path	None
Registry Object	/desktop/preferences
Category	DESKTOP
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	not shipped
Allowable Values	yes, no

icon_placement

Specifies where minimized application icons should be placed on the desktop.

Takes Effect	At Desktop Initialization (Login)
Retained in Client Memory	No; saved in user's desktop profile
User Interface Path	Desktop->Display: Window appearance: Icon location
Registry Object	/desktop/preferences
Category	DESKTOP
Valid Preference Levels	system, usergroup, user
Value Type	Integer
Shipped default value	0
Allowable Values	0 - Align on top, from left to right. 1 - Align on bottom, from left to right. 2 - Align on left, from top to bottom. 3 - Align on right, from top to bottom. 4 - Align on top, from right to left. 5 - Align on bottom, from right to left. 6 - Align on left, from bottom to top. 7 - Align on right, from bottom to top.

lock_screen

Takes Effect	At Desktop Initialization (Login)
Retained in Client Memory	No
User Interface Path	None
Registry Object	/desktop/preferences
Category	DESKTOP
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	Not shipped
Allowable Values	yes, no

lock_when_screen_saves

Takes Effect	At Desktop Initialization (Login)
Retained in Client Memory	No
User Interface Path	None
Registry Object	/desktop/preferences
Category	DESKTOP
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	Not shipped
Allowable Values	yes, no

logout_button

Takes Effect	At Desktop Initialization (Login)
Retained in Client Memory	No
User Interface Path	None
Registry Object	/desktop/preferences
Category	DESKTOP
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	Not shipped
Allowable Values	yes, no

max_unlock_attempts

Takes Effect	At Desktop Initialization (Login)
Retained in Client Memory	No
User Interface Path	None
Registry Object	/desktop/preferences
Category	DESKTOP
Valid Preference Levels	system, usergroup, user
Value Type	Integer
Shipped default value	Not shipped
Allowable Values	0 - 1000

prompt_for_lock_password

Takes Effect	At Desktop Initialization (Login)
Retained in Client Memory	No
User Interface Path	None
Registry Object	/desktop/preferences
Category	DESKTOP
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	Not shipped
Allowable Values	yes, no

root_menu_enabled

Indicates whether the pop-up menu on the desktop should be displayed if right-click on desktop is performed.

Takes Effect	At Desktop Initialization (Login)
Retained in Client Memory	No
User Interface Path	Desktop -> Display : Window Appearance: Enable Desktop Pop-up

Registry Object	/desktop/preferences
Category	DESKTOP
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	yes
Allowable Values	yes - show popup window no - do not show popup window

show_logoff_during_lock

Takes Effect	At Desktop Initialization (Login)
Retained in Client Memory	No
User Interface Path	None
Registry Object	/desktop/preferences
Category	DESKTOP
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	not shipped
Allowable Values	yes, no

show_logout_button

Sets whether the logout image should be displayed on the launchbar.

Takes Effect	At Desktop Init (Login)
Retained in Client Memory	No
User Interface Path	Desktop->Display: Desktop buttons: Show Exit button
Registry Object	/desktop/preferences
Category	DESKTOP
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	not shipped; desktop default is yes
Allowable Values	yes, no

show_lock_button

Sets whether the lock screen image should be displayed on launchbar.

Takes Effect	At Desktop Initialization (Login)
Retained in Client Memory	No
User Interface Path	Desktop->Display: Desktop buttons: Show Lock button
Registry Object	/desktop/preferences
Category	DESKTOP
Valid Preference Levels	system, usergroup, user
Value Type	Choice

Shipped default value	not shipped; desktop default is yes
Allowable Values	yes, no

show_help_button

Sets whether the help button/image should be displayed on launchbar.

Takes Effect	At Desktop Initialization (Login)
Retained in Client Memory	No
User Interface Path	Desktop->Display: Desktop buttons: Show Help button
Registry Object	/desktop/preferences
Category	DESKTOP
Valid Preference Levels	system, usergroup, user
Value Type	Choice
*shipped default value	not shipped; desktop default is yes
Allowable Values	yes, no

show_memory_meter

Sets whether or not the memory meter can be ″popped out″ to show actual memory usage figures. This has no effect on whether the memory meter is displayed on the launch bar.

Takes Effect	At Desktop Init (Login)
Retained in Client Memory	No
User Interface Path	Desktop->Display: Launch bar options: Show memory meter
Registry Object	/desktop/preferences
Category	DESKTOP
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	not shipped; desktop default is yes
Allowable Values	yes, no

winmgr_font_size

The point size of the font that the window manager uses for window titles, menus, and dialog boxes.

Takes Effect	At Desktop Initialization (Login)
Retained in Client Memory	No
User Interface Path	Desktop->Display: Fonts: Font size for icons and menus
Registry Object	/desktop/preferences
Category	DESKTOP
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	not shipped; default is 12
Allowable Values	8, 10, 12, 14, 18, 24

xserver-initialize-web-palette-colors

Specifies whether to preload the 216 web palette colors into the default colormap

Takes Effect	At Desktop Init
Retained in Client Memory	No
User Interface Path	Desktop->Display: Fonts: Enable web palette colors
Registry Object	/desktop/preferences
Category	DESKTOP
Valid Preference Levels	system, usergroup, user
Value Type	Boolean
Shipped default value	false
Allowable Values	true, false

Keyboard Related Settings

pref-keyboard-auto-repeat

Specifies whether or not keyboard auto-repeat is enabled. If ″false″, then keys do not auto-repeat at all.

Takes Effect	At Workstation Initialization, At Login
Retained in Client Memory	No
User Interface Path	None
Registry Object	/config
Category	EXTERNAL
Valid Preference Levels	system, usergroup, user
Value Type	Boolean
Shipped default value	true
Allowable Values	true, false

pref-keyboard-auto-repeat-rate

The auto repeat rate to use for the keyboard (times per second). This option is ignored if ″pref-keyboard-auto-repeat″ is false.

Takes Effect	At Workstation Initializtion, At Login
Retained in Client Memory	No
User Interface Path	Hardware->Workstation: Keyboard Settings: Repeat rate
Registry Object	/config
Category	WORKSTATION
Valid Preference Levels	system, usergroup, user
Value Type	Integer
Shipped default value	20
Allowable Values	2-30

pref-keyboard-auto-repeat-start

The delay (in milliseconds) to use before keyboard auto repeat begins. This option is ignored if

″pref-keyboard-auto-repeat″ is false.

Takes Effect	At Workstation Initialization, At Login
Retained in Client Memory	No
User Interface Path	Hardware->Workstation: Keyboard Settings: Repeat delay
Registry Object	/config
Category	WORKSTATION
Valid Preference Levels	system, usergroup, user
Value Type	Integer
Shipped default value	500
Allowable Values	0 - 1000

nsm-numlock

Used to enable/disable status of numlock key on keyboard when session is started.

Takes Effect	At Workstation Initialization, At Login
Retained in Client Memory	No
User Interface Path	Hardware->Workstation: Keyboard Settings: Num Lock key
Registry Object	/config
Category	WORKSTATION
Valid Preference Levels	system, usergroup, user
Value Type	Boolean
false	false
Allowable Values	true, false

key_window_close

The key sequence to close the active window.

Takes Effect	At Desktop Initialization (Login)
Retained in Client Memory	No
User Interface Path	None
Registry Object	/desktop/preferences
Category	DESKTOP
Valid Preference Levels	system, usergroup, user
Value Type	String
*shipped default value	not shipped; default ″Alt<Key>F4″
Allowable Values	

key_root_menu

The key sequence to pop up the root menu at the current mouse pointer position.

Takes Effect	At Desktop Initialization (Login)
Retained in Client Memory	No
User Interface Path	None
Registry Object	/desktop/preferences
Category	DESKTOP
Valid Preference Levels	system, usergroup, user
Value Type	String
Shipped default value	not shipped; default is ″Alt<Key>F10″
Allowable Values	

key_window_menu

The key sequence to pop up the window menu that is associated with the active window.

Takes Effect	At Desktop Initialization (Login)
Retained in Client Memory	No
User Interface Path	None
Registry Object	/desktop/preferences
Category	DESKTOP
Valid Preference Levels	system, usergroup, user
Value Type	String
Shipped default value	not shipped; default, ″Alt<Key>space″
Allowable Values	

key_window_menu_alt

An alternative key sequence for accessing the window menu for the active window.

Takes Effect	At Desktop Initialization (Login)
Retained in Client Memory	No
User Interface Path	None
Registry Object	/desktop/preferences
Category	DESKTOP
Valid Preference Levels	system, usergroup, user
Value Type	String
Shipped default value	not shipped; (default ″Alt<Key>minus″)
Allowable Values	

key_window_switch

The key sequence to switch between windows by moving forwards through the window list.

Takes Effect	At Desktop Initialization (Login)
Retained in Client Memory	No
User Interface Path	None
Registry Object	/desktop/preferences

Category	DESKTOP
Valid Preference Levels	system, usergroup, user
Value Type	String
*shipped default value	not shipped; (default ″˜Shift Alt<Key>Tab″)
Allowable Values	

key_window_switch_back

The key sequence to switch between windows by moving backwards through the window list.

Takes Effect	At Desktop Initialization (Login)
Retained in Client Memory	No
User Interface Path	None
Registry Object	/desktop/preferences
Category	DESKTOP
Valid Preference Levels	system, usergroup, user
Value Type	String
Shipped default value	not shipped; default ″Shift Alt<Key>Tab″
Allowable Values	

key_version

Display the desktop build date version.

Takes Effect	At Desktop Initialization (Login)
Retained in Client Memory	No
User Interface Path	None
Registry Object	/desktop/preferences
Category	DESKTOP
Valid Preference Levels	system, usergroup, user
Value Type	String
*shipped default value	not shipped; default ″Ctrl Alt<Key>V″
Allowable Values	

key_logoff

The key sequence to log the user off. This has the same effect as selecting the ″Logoff and Exit″ option from the root menu.

Takes Effect	At Desktop Initialization (Login)
Retained in Client Memory	No
User Interface Path	None
Registry Object	/desktop/preferences
Category	DESKTOP
Valid Preference Levels	system, usergroup, user
Value Type	String

Default Value	″Ctrl Alt<Key>BackSpace″
Allowable Values	

key_window_kill

Hitting this key sequence twice will send an ″XKillClient″ message to the active window. This can be used to kill crashed applications. Note however that some applications may still stay in memory because they are not responding to X events. It is necessary to logout to kill the process in this situation.

Takes Effect	At Desktop Initialization (Login)
Retained in Client Memory	No
User Interface Path	None
Registry Object	/desktop/preferences
Category	DESKTOP
Valid Preference Levels	system, usergroup, user
Value Type	String
Shipped default value	not shipped; default ″Ctrl Alt<Key>Delete″
Allowable Values	

key_login_name

Display the userid of the logged in user.

Takes Effect	At Desktop Initialization (Login)
Retained in Client Memory	No
User Interface Path	None
Registry Object	/desktop/preferences
Category	DESKTOP
Valid Preference Levels	system, usergroup, user
Value Type	String
Default Value	not ″Ctrl Alt<Key>L″
Allowable Values	

key_information

Display information about the IP-related parameters that have been configured on the NC.

Takes Effect	At Desktop Initialization (Login)
Retained in Client Memory	No
User Interface Path	None
Registry Object	/desktop/preferences
Category	DESKTOP
Valid Preference Levels	system, workstation
Value Type	String
Default Value	″Ctrl Alt<Key>I″
Allowable Values	

key_print_screen

The key sequence to use to print the entire screen image to a BMP file in the user's document directory.

Takes Effect	At Desktop Initialization (Login)
Retained in Client Memory	No
User Interface Path	None
Registry Object	/desktop/preferences
Category	DESKTOP
Valid Preference Levels	system, usergroup, user
Value Type	String
Shipped default value	Alt Shift<Key>PrtSc
Allowable Values	

key_print_window

The key sequence to use to print the active window's image to a BMP file in the user's document directory.

Takes Effect	At Desktop Initialization (Login)
Retained in Client Memory	No
User Interface Path	None
Registry Object	/desktop/preferences
Category	DESKTOP
Valid Preference Levels	system, usergroup, user
Value Type	String
Shipped default value	Alt Shift<Key>Scroll_Lock
Allowable Values	

key_toggle_keys

The key sequence to use to toggle special keys on and off.

Takes Effect	At Desktop Initialization (Login)
Retained in Client Memory	No
User Interface Path	None
Registry Object	/desktop/preferences
Category	DESKTOP
Valid Preference Levels	system, usergroup, user
Value Type	String
Shipped default value	not shipped; default ″Shift Ctrl Alt<Key>F11″
Allowable Values	

special_keys_enabled

This option can be set to false to disable the special keys when the user logs in. The user can change the special key state using the ″key_toggle_keys″ key at any time during the login session. Upon the next login, the state will revert to the server's setting: the user's changes do not persist across login sessions.

Takes Effect	At Desktop Initialization (Login)
Retained in Client Memory	No
User Interface Path	None
Registry Object	/desktop/preferences
Category	DESKTOP
Valid Preference Levels	system, usergroup, user
Value Type	boolean
Shipped default value	not shipped; default true
Allowable Values	true, false

xserver-keyboard-type

Specifies the type of keyboard in use. NOTE: Choices depend on attached keyboard.

Takes Effect	At Workstation Init
Retained in Client Memory	Yes
User Interface Path	Hardware->Workstation: Keyboard Settings: Keyboard mapping language
Registry Object	/config
Category	WORKSTATION
Valid Preference Levels	system, workstation
Value Type	Choice
Shipped default value	not shipped
Allowable Values	15 - Danish 110 - Dutch 6 - Dutch (Belgian) 9 - English (UK) 0 - English (US) 112 - English (US ISO) 13 - Finnish 5 - French 44 - French (Belgian) 43 - French (Canadian-1988) 45 - French (Canadian-1992) 46 - French (Swiss) 4 - German 7 - German (Swiss) 10 - Italian 12 - Norwegian 14 - Portuguese 141 - Portuguese (Brazilian) 8 - Spanish 109 - Spanish (Latin America) 167 - Swedish 107 - Swiss, French/German

Registry Settings

NSM_ALLOW_OVERRIDES

Indicates if override files should be pulled in by the registry during initialization.

Takes Effect	At Registry Initialization
Retained in Client Memory	No
User Interface Path	None
Registry Object	/login/rules
Category	RULES
Valid Preference Levels	system
Value Type	Choice
Shipped default value	DISABLE
Allowable Values	ENABLE, DISABLE

NSM_NC_NAME_TYPE

Indicates what name format should be used to locate the workstation specific configuration information for this Network Station. Valid types are: ANY, IP_ADDRESS, MAC_ADDRESS, and HOST_NAME. ANY indicates that all of the valid forms are acceptable. Specifying any of the other options will make that the only valid form and exclude usage of the other forms.

Takes Effect	At Registry Initialization
Retained in Client Memory	No
User Interface Path	None
Registry Object	/login/rules
Category	RULES
Valid Preference Levels	system
Value Type	Choice
Shipped default value	ANY
Allowable Values	ANY, IP_ADDRESS, MAC_ADDRESS, HOST_NAME

NSM_ACCESS_NC_CONFIG

Specifies whether the registry should look for workstation specific configuration files during registry initialization. Disabling this attribute will result in a minor performance improvement during Network Station startup and eliminate any possibility of workstation specific configuration from being used.

Takes Effect	At Registry Initialization
Retained in Client Memory	No
User Interface Path	None
Registry Object	/login/rules
Category	RULES
Valid Preference Levels	system
Value Type	Choice
Shipped default value	ENABLE
Allowable Values	ENABLE, DISABLE

NSM_ACCESS_GROUP_CONFIG

Specifies whether the registry should look forusergroup level configuration files during registry initialization of user information. Disabling this attribute will result in a minor performance improvement during user login and eliminate any possiblity of usergroup level configuration files being used.

Takes Effect	At Registry Initialization
Retained in Client Memory	No
User Interface Path	None
Registry Object	/login/rules
Category	RULES
Valid Preference Levels	system
Value Type	Choice
Shipped default value	ENABLE
Allowable Values	ENABLE, DISABLE

NSM_ACCESS_USER_CONFIG

Specifies whether the registry should look for user specific configuration files during registry initialization of user information. Disabling this attribute will result in a minor performance improvement during user login and eliminate any possiblity of user level configuration files being used.

Takes Effect	At Registry Initialization
Retained in Client Memory	No
User Interface Path	None
Registry Object	/login/rules
Category	RULES
Valid Preference Levels	system
Value Type	Choice
Shipped default value	ENABLE
Allowable Values	ENABLE, DISABLE

Network Station Login

<User's Group Specification>

If a user belongs to more than one group, this specifies from which group the user should get their preferences.

Takes Effect	At Login
Retained in Client Memory	No
User Interface Path	Administration->User's Group
Registry Object	/login/groups
Category	USERGROUP
Valid Preference Levels	system
Value Type	List (user name, group name)
Shipped default value	not shipped

Allowable Values	Any valid user name. The group name is the configuration value name and the user name is the configuration value.

FULL_NAME

Specifies the user for which these defaults settings are being defined. The default is to not list any user.

Takes Effect	At Login
Retained in Client Memory	No
User Interface Path	Environment->Network->Personal: User's name
Registry Object	/login/groups
Category	INTERNET
Valid Preference Levels	system, usergroup, user
Value Type	String
Shipped Default Value	nil
Allowable Values	Any invariant ASCII string

EMAIL_USERID

For specifying the Internet E-mail address of this user.

Takes Effect	At Login
Retained in Client Memory	No
User Interface Path	Environment->Network->Personal: Email address
Registry Object	/login/groups
Category	INTERNET
Valid Preference Levels	system, usergroup, user
Value Type	String
Shipped Default Value	nil
Allowable Values	Any invariant ASCII string

REPLY_TO

Used to specify an E-mail address at which this user can receive E-mail as an alternative to the users regular E-mail address.

Takes Effect	At Login
Retained in Client Memory	No
User Interface Path	Environment->Network->Personal: Reply to address
Registry Object	/login/groups
Category	INTERNET
Valid Preference Levels	system, usergroup, user
Value Type	String
Shipped Default Value	nil
Allowable Values	Any invariant ASCII string

HOME_PAGE

Specifies the URL address that is automatically loaded after the browser starts.

Takes Effect	At Login
Retained in Client Memory	No
User Interface Path	Environment->Network->Personal: Home page
Registry Object	/login/groups
Category	INTERNET
Valid Preference Levels	system, usergroup, user
Value Type	String
Shipped Default Value	nil
Allowable Values	Any invariant ASCII string

FTP_PROXY_HOST

Specifies the name of the FTP proxy to be used.

Takes Effect	At Login
Retained in Client Memory	No
User Interface Path	Environment->Network->Proxies: FTP: Address of proxy server to use
Registry Object	/login/groups
Category	INTERNET
Valid Preference Levels	system, usergroup, user
Value Type	String
Shipped Default Value	nil
Allowable Values	Any invariant ASCII string

FTP_PROXY_PORT

Specifies the name of the FTP port to be used.

Takes Effect	At Login
Retained in Client Memory	No
User Interface Path	Environment->Network->Proxies: FTP: Port
Registry Object	/login/groups
Category	INTERNET
Valid Preference Levels	system, usergroup, user
Value Type	Integer
Shipped Default Value	nil
Allowable Values	1 - 65535

HTTP_PROXY_HOST

Specifies the name of the HTTP proxy to be used.

Takes Effect	At Login

Retained in Client Memory	No
User Interface Path	Environment->Network->Proxies: HTTP: Address of proxy server to use
Registry Object	/login/groups
Category	INTERNET
Valid Preference Levels	system, usergroup, user
Value Type	String
Shipped Default Value	nil
Allowable Values	Any invariant ASCII string

HTTP_PROXY_PORT

Specifies the name of the HTTP port to be used.

Takes Effect	At Login
Retained in Client Memory	No
User Interface Path	Environment->Network->Proxies: HTTP: Port
Registry Object	/login/groups
Category	INTERNET
Valid Preference Levels	system, usergroup, user
Value Type	Integer
Shipped Default Value	nil
Allowable Values	1 - 65535

GOPHER_PROXY_HOST

Specifies the name of the GOPHER proxy to be used.

Takes Effect	At Login
Retained in Client Memory	No
User Interface Path	Environment->Network->Proxies: GOPHER: Address of proxy server to use
Registry Object	/login/groups
Category	INTERNET
Valid Preference Levels	system, usergroup, user
Value Type	String
Shipped Default Value	nil
Allowable Values	Any invariant ASCII string

GOPHER_PROXY_PORT

Specifies the name of the GOPHER port to be used.

Takes Effect	At Login
Retained in Client Memory	No
User Interface Path	Environment->Network->Proxies: GOPHER: Port

Registry Object	/login/groups
Category	INTERNET
Valid Preference Levels	system, usergroup, user
Value Type	Integer
Shipped Default Value	nil
Allowable Values	1 -65535

HTTPS_PROXY_HOST

Specifies the name of the security proxy to be used.

Takes Effect	At Login
Retained in Client Memory	No
User Interface Path	Environment->Network->Proxies: Security: Address of proxy server to use
Registry Object	/login/groups
Category	INTERNET
Valid Preference Levels	system, usergroup, user
Value Type	String
Shipped Default Value	nil
Allowable Values	Any invariant ASCII string

HTTPS_PROXY_PORT

Specifies the name of the security port to be used.

Takes Effect	At Login
Retained in Client Memory	No
User Interface Path	Environment->Network->Proxies: Security: Port
Registry Object	/login/groups
Category	INTERNET
Valid Preference Levels	system, usergroup, user
Value Type	Integer
Shipped Default Value	nil
Allowable Values	1 - 65536

SOCKS_HOST

SOCKS host field specifies the name of the SOCKS Host to be used.

Takes Effect	At Login
Retained in Client Memory	No
User Interface Path	Environment->Network->Proxies: SOCKS: Address of proxy server to use
Registry Object	/login/groups
Category	INTERNET

Valid Preference Levels	system, usergroup, user
Value Type	String
Shipped Default Value	nil
Allowable Values	Any invariant ASCII string

SOCKS_PORT

Specifies the name of the SOCKS port to be used.

Takes Effect	At Login
Retained in Client Memory	No
User Interface Path	Environment->Network->Proxies: SOCKS: Port
Registry Object	/login/groups
Category	INTERNET
Valid Preference Levels	system, usergroup, user
Value Type	Integer
Shipped Default Value	nil
Allowable Values	1 - 65535

SMTP_SERVER

Specifies the name of the SMTP mail server to be used.

Takes Effect	At Login
Retained in Client Memory	No
User Interface Path	Environment->Network->Mail and News servers: Outgoing mail (SMTP) server
Registry Object	/login/groups
Category	INTERNET
Valid Preference Levels	system, usergroup, user
Value Type	String
Shipped Default Value	nil
Allowable Values	Any invariant ASCII string

POP3_SERVER

Specifies the name of the POP3 mail server to be used.

Takes Effect	At Login
Retained in Client Memory	No
User Interface Path	Environment->Network->Mail and News servers: Incoming mail (POP3) server
Registry Object	/login/groups
Category	INTERNET
Valid Preference Levels	system, usergroup, user
Value Type	String

Shipped Default Value	nil
Allowable Values	Any invariant ASCII string

NNTP_SERVER

Specifies the name of the NNTP news server to be used.

Takes Effect	At Login
Retained in Client Memory	No
User Interface Path	Environment->Network->Mail and News servers: News (NNTP) server
Registry Object	/login/groups
Category	INTERNET
Valid Preference Levels	system, usergroup, user
Value Type	String
Shipped Default Value	nil
Allowable Values	Any invariant ASCII string

NNTP_SERVER_PORT

Specifies the port that accesses the NNTP server.

Takes Effect	At Login
Retained in Client Memory	No
User Interface Path	Environment->Network->Mail and News servers: News (NNTP) server port
Registry Object	/login/groups
Category	INTERNET
Valid Preference Levels	system, usergroup, user
Value Type	Integer
Shipped Default Value	nil
Allowable Values	1 - 65536

FTP_PROXY_OVERRIDES

Identifies hosts that can connect without going through the FTP proxy.

Takes Effect	At Login
Retained in Client Memory	No
User Interface Path	Environment->Network->Proxy exceptions: No FTP proxy for
Registry Object	/login/groups
Category	INTERNET
Valid Preference Levels	system, usergroup, user
Value Type	String
Shipped Default Value	nil

Allowable Values	Any list of PATH:PORT entries separated by commas (must be invariant ASCII)

HTTP_PROXY_OVERRIDES

Identifies hosts that can connect without going through the FTP proxy.

Takes Effect	At Login
Retained in Client Memory	No
User Interface Path	Environment->Network->Proxy exceptions: No HTTP proxy for
Registry Object	/login/groups
Category	INTERNET
Valid Preference Levels	system, usergroup, user
Value Type	String
Shipped Default Value	nil
Allowable Values	Any list of PATH:PORT entries separated by commas (must be invariant ASCII)

GOPHER_PROXY_OVERRIDES

Identifies hosts that can connect without going through the GOPHER proxy.

Takes Effect	At Login
Retained in Client Memory	No
User Interface Path	Environment->Network->Proxy exceptions: No GOPHER proxy for
Registry Object	/login/groups
Category	INTERNET
Valid Preference Levels	system, usergroup, user
Value Type	String
Shipped Default Value	nil
Allowable Values	Any list of PATH:PORT entries separated by commas (must be invariant ASCII)

NSM_HTTP_PORT

Specifies the port that accesses the HTTP server.

Takes Effect	At Login
Retained in Client Memory	No
User Interface Path	Environment->Network->Ports: Web server port on the boot host
Registry Object	/login/groups
Category	INTERNET
Valid Preference Levels	system, usergroup, user
Value Type	Integer
Shipped Default Value	80

Allowable Values	1 - 65536

DESKTOP_LAUNCHER_PORT

Identifies the port to connect to when launching Java applets.

Takes Effect	At Login
Retained in Client Memory	No
User Interface Path	Environment->Network->Ports: Applet launcher port
Registry Object	/login/groups
Category	INTERNET
Valid Preference Levels	system, usergroup, user
Value Type	Integer
Shipped Default Value	5555
Allowable Values	1 - 65535

LANG

The default is Default (from server). The value for this field is taken from the Host server from which the IBM Network Stations are booted.

Takes Effect	At Login
Retained in Client Memory	No
User Interface Path	Environment->Language->Formats: Format to use for dates, currency, numbers, and messages
Registry Object	/login/groups
Category	LANGUAGE
Valid Preference Levels	system, usergroup, user
Value Type	String
Shipped Default Value	nil
Allowable Values	See “Appendix F. Language and locale” on page 175

LC_TIME

Refers to how dates and time are presented on paper or computer displays.

Takes Effect	At Login
Retained in Client Memory	No
User Interface Path	Environment->Language->Formats: Date and time format
Registry Object	/login/groups
Category	LANGUAGE
Valid Preference Levels	system, usergroup, user
Value Type	String
Shipped Default Value	nil
Allowable Values	See “Appendix F. Language and locale” on page 175

LC_MONETARY

Defines the rules and symbols used to format monetary information.

Takes Effect	At Login
Retained in Client Memory	No
User Interface Path	Environment->Language->Formats: Currency related format
Registry Object	/login/groups
Category	LANGUAGE
Valid Preference Levels	system, usergroup, user
Value Type	String
Shipped Default Value	nil
Allowable Values	See “Appendix F. Language and locale” on page 175

LC_NUMERIC

Defines the rules and symbols for formatting non-monetary numeric values.

Takes Effect	At Login
Retained in Client Memory	No
User Interface Path	Environment->Language->Formats: Numeric format
Registry Object	/login/groups
Category	LANGUAGE
Valid Preference Levels	system, usergroup, user
Value Type	String
Shipped Default Value	nil
Allowable Values	See “Appendix F. Language and locale” on page 175

LC_CTYPE

Defines how characters are classified for use.

Takes Effect	At Login
Retained in Client Memory	No
User Interface Path	Environment->Language->Formats: Character handling rules
Registry Object	/login/groups
Category	LANGUAGE
Valid Preference Levels	system, usergroup, user
Value Type	String
Shipped Default Value	nil
Allowable Values	See “Appendix F. Language and locale” on page 175

LC_MESSAGES

Defines the format and values used for messages and menus on a system.

Takes Effect	At Login
Retained in Client Memory	No
User Interface Path	Environment->Language->Formats: Language for messages and menus
Registry Object	/login/groups
Category	LANGUAGE
Valid Preference Levels	system, usergroup, user
Value Type	String
Shipped Default Value	nil
Allowable Values	See “Appendix F. Language and locale” on page 175

5250 Emulator Settings

NS5250*KeyRemap

Determines if you want the user to have the ability to remap keys or to restrict the user to the 5250 default (or system default).

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->5250->Keyboard mapping: Key remapping capability
Registry Object	/ns5250/preferences
Category	NS5250
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	disable
Allowable Values	enable, disable, disable_and_hide

NS5250*KeymapPath

Select which key mapping is used with a 5250 session.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->5250->Keyboard mapping: Default keyboard files
Registry Object	/ns5250/preferences
Category	NS5250
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	0
Allowable Values	0, 1 (0 = no default at the level; 1 = default at the level)

NS5250*KeymapXXXPath

Provides the client path to the keymap file.

Note: the XXX in the preference name should be subsituted with the numeric value of the keyboard.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->5250->Keyboard mapping->Default keyboard files
Registry Object	/ns5250/preferences
Category	NS5250
Valid Preference Levels	system, usergroup, user
Value Type	String
Shipped default value	
Allowable Values	valid path name accessible from the client

NS5250*KeyPad

Allows you to customize keys.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->5250->Keypad: Keypad capability
Registry Object	/ns5250/preferences
Category	NS5250
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	enable
Allowable Values	enable, keypad_only, disable_and_hide

NS5250*KeyPadPath

Contains the Keypad sequences that will be made available to users with enabled or keypad use only capability. The default is None, meaning you don’t want to make any keypad sequences available.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->5250->Keypad: Keypads to make available
Registry Object	/ns5250/preferences
Category	NS5250
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	0 (no paths specified)
Allowable Values	any valid path name to default keypad files; multiple values separated by commas

NS5250*PlayBack

Determines if the user can use the 5250 emulator function of recording a series of keystrokes and then play them back.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->5250->Record/Playback: Record/Playback capability
Registry Object	/ns5250/preferences
Category	NS5250
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	enable
Allowable Values	enable, playback_only, disable_and_hide

NS5250*PlayBackPath

Contains the Playback sequences that will be made available to users with enable or playback only capability.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->5250->Record/Playback: Playback sequences to make available
Registry Object	/ns5250/preferences
Category	NS5250
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	0
Allowable Values	any valid client path to default playback files, multiple paths separated by commas

NS5250*ColorMap

Determines whether the user has the capability to create new color schemes (Advanced), use color schemes created by others (Basic), or be limited to the default color scheme.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->5250->Colors: Color customization capability
Registry Object	/ns5250/preferences
Category	NS5250
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	basic
Allowable Values	basic, advanced, disable, disable_and_hide

NS5250*DefaultColorMapPath

Used to indicate which color scheme should be used when the 5250 emulation session is started.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->5250->Colors: Default color scheme
Registry Object	/ns5250/preferences
Category	NS5250
Valid Preference Levels	system, usergroup, user
Value Type	String
Shipped default value	0
Allowable Values	Any valid client path to color map files

NS5250*ColorMapPath

Determines the color schemes that will be available to users with basic or advanced color customization capability. Clients path to color map files. Multiple paths should be separated by commas.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->5250->Colors: Additional color schemes to make available
Registry Object	/ns5250/preferences
Category	NS5250
Valid Preference Levels	system, usergroup, user
Value Type	String
Shipped default value	0 ; no paths
Allowable Values	Any valid client path name to color map files

NS5250*27x132

Used to select the size (number of rows and columns) that you want your 5250 session to use. Possible values are: 24 by 80 and 27 by 132. The default value is 27 by 132.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->5250->Appearance: Screen size
Registry Object	/ns5250/preferences
Category	NS5250
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	enable
Allowable Values	enable, disable

NS5250*ImageView

Enables or disables Sviewing of image or fax documents.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->5250->Appearance: Image/Fax display
Registry Object	/ns5250/preferences
Category	NS5250
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	enable
Allowable Values	enable, disable

NS5250*ColumnSeparator

Enables or disables displaying column separators between certain types of fields.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->5250->Appearance: Column separators
Registry Object	/ns5250/preferences
Category	NS5250
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	enable
Allowable Values	enable, disable

NS5250*Command

Allows you to enable or disable the menu bar Command choice.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->5250->Allow use of: Command menu
Registry Object	/ns5250/preferences
Category	NS5250
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	enable
Allowable Values	enable, disable_and_hide

NS5250*Edit

Allows you to enable or disable editing (copy, cut, and paste) functions.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->5250->Allow use of: Edit menu
Registry Object	/ns5250/preferences

Category	NS5250
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	enable
Allowable Values	enable, disable_and_hide

NS5250*Option

Allows you to enable or disable the menu bar Option choice.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->5250->Allow use of: Option menu
Registry Object	/ns5250/preferences
Category	NS5250
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	enable
Allowable Values	enable, disable_and_hide

NS5250*LocalPrint

Allows you to enable or disable the menu bar Print choice.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->5250->Allow use of: Print menu
Registry Object	/ns5250/preferences
Category	NS5250
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	enable
Allowable Values	enable, keyboard_only_local_print, disable_and_hide

NS5250*Help

Enables the Help menu item.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->5250->Allow use of: Help menu
Registry Object	/ns5250/preferences
Category	NS5250
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	enable

Allowable Values	enable, disable_and_hide

NS5250*Control

Allows you to enable or disable the menu bar Control choice.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->5250->Allow use of: Help menu
Registry Object	/ns5250/preferences
Category	NS5250
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	enable
Allowable Values	enable, disable_and_hide

NS5250*MiscPref

Determines (to some extent) the look and feel of your 5250 display screen.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->5250->Allow use of: Miscellaneous preferences
Registry Object	/ns5250/preferences
Category	NS5250
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	enable
Allowable Values	enable, disable_and_hide

NS5250*FontMenu

Provides the capability to select a different size font for a 5250 emulation session.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->5250->Allow use of: Font menu list
Registry Object	/ns5250/preferences
Category	NS5250
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	enable
Allowable Values	enable, disable, disable_no_resize_or_move, fixed_fonts_only

NS5250*ChangeIPAddress

Provides the capability to request a 5250 session on a different host.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->5250->Allow use of: New session window
Registry Object	/ns5250/preferences
Category	NS5250
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	enable
Allowable Values	enable, disable

NS5250*BrowserStart

Provides the capability to launch a browser session from any valid URL address encountered during a 5250 Emulation session

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->5250->Allow use of: Browser hotspot
Registry Object	/ns5250/preferences
Category	NS5250
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	enable
Allowable Values	enable, disable

NS5250*DesktopFunction

Stores the window size, location, and the fonts in the most recent use of the application.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->5250->Allow use of: Desktop file write
Registry Object	/ns5250/preferences
Category	NS5250
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	enable
Allowable Values	enable, disable

NS5250*

Provides ability to add any additional 5250 application parameter. Any literal can follow the NS5250* prefix and it will become a custom 5250 parameter.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->5250->Additional parameters:
Registry Object	/ns5250/preferences
Category	NS5250
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	enable
Allowable Values	

3270 Emulator Settings

NS3270*KeyRemap

Determines if users can have the capability to remap keys or if users are restricted to the 3270 default (or system default).

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->3270->Keyboard mapping: Key remapping capability
Registry Object	/ns3270/preferences
Category	NS3270
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	disable
Allowable Values	enable, disable, disable_and_hide

NS3270*KeymapPath

Select which key mapping is used with a 3270 session.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->5250->Keyboard mapping: Default keyboard files
Registry Object	/ns5250/preferences
Category	NS5250
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	0
Allowable Values	0, 1

NS3270*KeymapXXXPath

Provides the client path to the keymap file.

Note: the XXX in the preference name should be subsituted with the numeric value of the keyboard.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	None
Registry Object	/ns3270/preferences
Category	NS3270
Valid Preference Levels	system, usergroup, user
Value Type	String
Shipped default value	
Allowable Values	valid path name accessible from the client

NS3270*buttonBox (KeyPad)

Allows you to customize keys.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->3270->Keypad: Keypad capability
Registry Object	/ns3270/preferences
Category	NS3270
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	true
Allowable Values	true, false, disable_and_hide, keypad_only

NS3270*KeyPadPath

Contains the Keypad sequences that will be made available to users with enabled or keypad use only capability.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->3270->Keypad: Keypads to make available
Registry Object	/ns3270/preferences
Category	NS3270
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	0 (no paths specified)
Allowable Values	any valid path name to keypad files; multiple values separated by commas

NS3270*PlayBack

Determines if the user can use the 3270 emulator function of recording a series of keystrokes and then playing them back.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->3270->Record/Playback: Record/Playback capability
Registry Object	/ns3270/preferences
Category	NS3270
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	enable
Allowable Values	enable, playback_only, disable_and_hide

NS3270*PlayBackPath

Contains the Playback sequences that will be made available to users with enable or playback only capability.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->3270->Record/Playback: Playback sequences to make available
Registry Object	/ns3270/preferences
Category	NS3270
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	0
Allowable Values	any valid client paths, multiple paths separated by a comma

NS3270*ColorMap

Determines whether the user has the capability to create new color schemes (Advanced), use color schemes created by others (Basic), or be limited to the default color scheme.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->3270->Colors: Color customization capability
Registry Object	/ns3270/preferences
Category	NS3270
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	basic
Allowable Values	basic, advanced, disable, disable_and_hide

NS3270*DefaultColorMapPath

Used to indicate which color scheme should be used when the 3270 emulation session is started.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->3270->Colors: Default color scheme
Registry Object	/ns3270/preferences
Category	NS3270
Valid Preference Levels	system, usergroup, user
Value Type	String
Shipped default value	0
Allowable Values	Any valid client path to color map files

NS3270*ColorMapPath

Clients path to color map files. Multiple paths should be separated by commas.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->3270->Colors: Additional color schemes to make available
Registry Object	/ns3270/preferences
Category	NS3270
Valid Preference Levels	system, usergroup, user
Value Type	String
Shipped default value	0 ; no paths
Allowable Values	Any valid client path to color map files

NS3270*rows

Selects the size (number of rows) that you want your 3270 session to use.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->3270->Appearance: Screen size
Registry Object	/ns3270/preferences
Category	NS3270
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	32
Allowable Values	24, 32, 43, 27

NS3270*cols

Selects the size (number of columns) that you want your 3270 session to use.

Takes Effect	At start of the first emulator session

Retained in Client Memory	No
User Interface Path	Applications->3270->Appearance: Screen size
Registry Object	/ns3270/preferences
Category	NS3270
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	80
Allowable Values	80, 132

NS3270*Port

Specifies which TCP/IP port on a System/390 is used to establish a 3270 session.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->3270->Appearance: Telnet 3270 port to connect to
Registry Object	/ns3270/preferences
Category	NS3270
Valid Preference Levels	system, usergroup, user
Value Type	Integer
Shipped default value	23
Allowable Values	1- 65535

NS3270*Speckey (Enter key position)

Specifies the key you want to use as the Enter key.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->3270->Appearance: Key for Enter function
Registry Object	/ns3270/preferences
Category	NS3270
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	false
Allowable Values	true, false

NS3270*Command

Allows you to enable or disable the menu bar Command choice.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->3270->Allow use of: Command menu
Registry Object	/ns3270/preferences

Category	NS3270
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	enable
Allowable Values	enable, disable_and_hide

NS3270*Edit

Allows you to enable or disable editing (copy, cut, and paste) functions.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->3270->Allow use of: Edit menu
Registry Object	/ns3270/preferences
Category	NS3270
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	enable
Allowable Values	enable, disable_and_hide

NS3270*Option

Allows you to enable or disable the menu bar Option choice.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->3270->Allow use of: Option menu
Registry Object	/ns3270/preferences
Category	NS3270
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	enable
Allowable Values	enable, disable_and_hide

NS3270*LocalPrint

Allows you to enable or disable the menu bar Print choice.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->3270->Allow use of: Print menu
Registry Object	/ns3270/preferences
Category	NS3270
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	enable

Allowable Values	enable, keyboard_only_local_print, disable_and_hide

NS3270*Help

Enables the Help menu item.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->3270->Allow use of: Help menu
Registry Object	/ns3270/preferences
Category	NS3270
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	enable
Allowable Values	enable, disable_and_hide

NS3270*Graphics

Allows you to enable or disable the capability of the 3270 session to display graphics.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->3270->Allow use of: Graphics
Registry Object	/ns3270/preferences
Category	NS3270
Valid Preference Levels	system, usergroup, user
Value Type	
Shipped default value	false
Allowable Values	true, false

NS3270*MiscPref

Determines (to some extent) the look and feel of your 3270 display screen.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->3270->Allow use of: Miscellaneous preferences
Registry Object	/ns3270/preferences
Category	NS3270
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	enable
Allowable Values	enable, disable_and_hide

NS3270*FontMenu

Provides the capability to select a different size font for a 3270 emulation session.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->3270->Allow use of: Font menu list
Registry Object	/ns3270/preferences
Category	NS3270
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	enable
Allowable Values	enable, disable, disable_no_resize_or_move, fixed_fonts_only

NS3270*ChangeIPAddress

Provides the capability to request a new 3270 session on a different host.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->3270->Allow use of: New session window
Registry Object	/ns3270/preferences
Category	NS3270
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	enable
Allowable Values	enable, disable

NS3270*BrowserStart

Provides the capability to launch a browser session from any valid URL address encountered during a 3270 Emulation session.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->3270->Allow use of: Browser hotspot
Registry Object	/ns3270/preferences
Category	NS3270
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	enable
Allowable Values	enable, disable

NS3270*

Provides ability to add any additional 3270 application parameter. Any literal can follow the NS3270* prefix and it will become a custom 3270 parameter.

Takes Effect	At start of the first emulator session
Retained in Client Memory	No
User Interface Path	Applications->3270->Additional parameters
Registry Object	/ns3270/preferences
Category	NS3270
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	enable
Allowable Values	enable, disable

VT Emulator (NSTerm) Settings

NSTerm*KeyRemap

Determines if you want the user to have the ability to remap keys or to restrict the user to the VT Emulator default (or system default).

Takes Effect	Under Application Control
Retained in Client Memory	No
User Interface Path	Applications->VT Emulator->Keyboard: Key remapping capability
Registry Object	/nsterm/preferences
Category	NSTERM
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	disable
Allowable Values	enable, disable, disable_and_hide

NSTerm*KeymapPath

Selects which key mapping is used with a VT Emulator session.

Takes Effect	Under Application Control
Retained in Client Memory	No
User Interface Path	Applications->VT Emulator->Keyboard: Default keyboard files
Registry Object	/nsterm/preferences
Category	NSTERM
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	0
Allowable Values	0, 1

NSterm*KeymapXXXPath

Provides the client path to the keymap file.

Note: the XXX in the preference name should be subsituted with the numeric value of the keyboard.

Takes Effect	Under Application Control
Retained in Client Memory	No
User Interface Path	None
Registry Object	/nsterm/preferences
Category	NSTERM
Valid Preference Levels	system, usergroup, user
Value Type	String
Shipped default value	
Allowable Values	valid path name accessible from the client

NSTerm*Command

Allows you to enable or disable the menu bar Command choice.

Takes Effect	Under Application Control
Retained in Client Memory	No
User Interface Path	Applications->VT Emulator->Allow use of: Command menu
Registry Object	/nsterm/preferences
Category	NSTERM
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	enable
Allowable Values	enable, disable_and_hide

NSTerm*Edit

Allows you to enable or disable editing (copy, cut, and paste) functions.

Takes Effect	Under Application Control
Retained in Client Memory	No
User Interface Path	Applications->VT Emulator->Allow use of: Edit menu
Registry Object	/nsterm/preferences
Category	NSTERM
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	enable
Allowable Values	enable, disable_and_hide

NSterm*Option

Allows you to enable or disable the menu bar Option choice.

Takes Effect	Under Application Control
Retained in Client Memory	No
User Interface Path	Applications->VT Emulator->Allow use of: Option menu
Registry Object	/nsterm/preferences
Category	NSTERM
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	enable
Allowable Values	enable, disable_and_hide

NSTerm*LocalPrint

Allows you to enable or disable the menu bar Print choice.

Takes Effect	Under Application Control
Retained in Client Memory	No
User Interface Path	Applications->VT Emulator->Allow use of: Print menu
Registry Object	/nsterm/preferences
Category	NSTERM
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	enable
Allowable Values	enable, keyboard_only_local_print, disable_and_hide

NSterm*Help

Enables the Help menu item.

Takes Effect	Under Application Control
Retained in Client Memory	No
User Interface Path	Applications->VT Emulator->Allow use of: Help menu
Registry Object	/nsterm/preferences
Category	NSTERM
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	enable
Allowable Values	enable, disable_and_hide

NSTerm*Control

Allows you to enable or disable the menu bar Control choice.

Takes Effect	Under Application Control
Retained in Client Memory	No
User Interface Path	Applications->VT Emulator->Allow use of: Control menu
Registry Object	/nsterm/preferences

Category	NSTERM
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	enable
Allowable Values	enable disable_and_hide

NSterm*MiscPref

Determine (to some extent) the look and feel of your VT emulator display screen.

Takes Effect	Under Application Control
Retained in Client Memory	No
User Interface Path	Applications->VT Emulator->Allow use of: Miscellaneous preferences
Registry Object	/nsterm/preferences
Category	NSTERM
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	enable
Allowable Values	enable, disable_and_hide

NSTerm*FontMenu

Provides the capability to select a different size font for a VT emulator session.

Takes Effect	Under Application Control
Retained in Client Memory	No
User Interface Path	Applications->VT Emulator->Allow use of: Font menu list
Registry Object	/nsterm/preferences
Category	NSTERM
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	enable
Allowable Values	enable, disable, disable_no_resize_or_move, fixed_fonts_only

NSTerm*EightBitInput

Allows special diacritic marks to be displayed correctly.

Takes Effect	Under Application Control
Retained in Client Memory	No
User Interface Path	Applications->VT Emulator->Advanced settings: Eight bit input enable
Registry Object	/nsterm/preferences
Category	NSTERM
Valid Preference Levels	system, usergroup, user

Value Type	Choice
Shipped default value	disable
Allowable Values	enable, disable

NSTerm*EightBitEmit

Allows special diacritic marks to be displayed correctly.

Takes Effect	Under Application Control
Retained in Client Memory	No
User Interface Path	Applications->VT Emulator->Advanced settings: Eight bit emit enable
Registry Object	/nsterm/preferences
Category	NSTERM
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	disable
Allowable Values	enable, disable

NSTerm*FieldAccess

Takes Effect	Under Application Control
Retained in Client Memory	No
User Interface Path	None
Registry Object	/nsterm/preferences
Category	NSTERM
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	enable
Allowable Values	enable, disable

NSTerm*DiagdAccess

Takes Effect	Under Application Control
Retained in Client Memory	No
User Interface Path	None
Registry Object	/nsterm/preferences
Category	NSTERM
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	enable
Allowable Values	enable, disable

NSTerm*ConfigdAccess

Takes Effect	Under Application Control
Retained in Client Memory	No
User Interface Path	None
Registry Object	/nsterm/preferences
Category	NSTERM
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	enable
Allowable Values	enable, disable

NSTerm*SaveLines

Specifies the number of lines to save in the scroll buffer.

Takes Effect	Under Application Control
Retained in Client Memory	No
User Interface Path	Applications->VT Emulator->Advanced settings: Lines to save in buffer
Registry Object	/nsterm/preferences
Category	NSTERM
Valid Preference Levels	system, usergroup, user
Value Type	Integer
Shipped default value	240
Allowable Values	non negative integer

NSTerm*scrollBar

The VT emulator uses a scrollable window. If you do not want the window to be scrollable, the scroll bar can be hidden using this preference setting.

Takes Effect	Under Application Control
Retained in Client Memory	No
User Interface Path	Applications->VT Emulator->Advanced settings: Vertical scrollbar
Registry Object	/nsterm/preferences
Category	NSTERM
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	true
Allowable Values	true, false

NSTerm*c132

Provides ability to add any additional VT Emulator or VT Emulator application parameter. Any literal can follow the NS3270* prefix and it will become a custom VT emulator parameter.

Takes Effect	Under Application Control
Retained in Client Memory	No
User Interface Path	Applications->VT Emulator
Registry Object	/nsterm/preferences
Category	NSTERM
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	true
Allowable Values	

NSTerm*

Provides ability to add any additional VT Emulator or VT Emulator application parameter. Any literal can follow the NS3270* prefix and it will become a custom VT emulator parameter.

Takes Effect	Under Application Control
Retained in Client Memory	No
User Interface Path	Applications->VT Emulator->Additional parameters
Registry Object	/nsterm/preferences
Category	NSTERM
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	enable
Allowable Values	enable, disable

Netscape Communicator Settings

lockPref.network.proxy.type

Indicates how you want to obtain your proxy settings; or no proxy.

Takes Effect	Under Application Control
Retained in Client Memory	No
User Interface Path	Applications->Netscape Communicator->Proxy configuration:
Registry Object	/netscape/preferences
Category	NETSCAPE
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	1
Allowable Values	1, 2, 3

lockPref.network.proxy.autoconfig_url

Allows the ability to ype the URL of the automatic proxy.

Takes Effect	Under Application Control
Retained in Client Memory	No
User Interface Path	Applications->Netscape Communicator->Proxy configuration: Configuration URL
Registry Object	/netscape/preferences
Category	NETSCAPE
Valid Preference Levels	system, usergroup, user
Value Type	String
Shipped default value	no shipped value
Allowable Values	any valid URL

lockPref.security.enable_java

Specifies that Netscape Communicator is enabled to run Java Applets.

Takes Effect	Under Application Control
Retained in Client Memory	No
User Interface Path	Applications->Netscape Communicator->Java: Enable Java Applets
Registry Object	/netscape/preferences
Category	NETSCAPE
Valid Preference Levels	system, usergroup, user
Value Type	Boolean
Shipped default value	false
Allowable Values	true, false

lockPref.java.use_plugin

Allows you to use the external Java Virtual Machine (JVM) shipped by IBM rather than the the JVM shipped with Netscape Communicator.

Takes Effect	Under Application Control
Retained in Client Memory	No
User Interface Path	Applications->Netscape Communicator->Java: Runtime Plug-in for Network Station, Java Edition
Registry Object	/netscape/preferences
Category	NETSCAPE
Valid Preference Levels	system, usergroup, user
Value Type	Boolean
Shipped default value	false
Allowable Values	true, false

lockPref.browser.cache.memory_cache_size

Specifies the largest cache size, in kilobytes, of the memory in the IBM Network Station system unit available for caching web pages and images.

Takes Effect	Under Application Control
Retained in Client Memory	No
User Interface Path	Applications->Netscape Communicator->Network: Maximum memory cache
Registry Object	/netscape/preferences
Category	NETSCAPE
Valid Preference Levels	system, usergroup, user
Value Type	Integer
Shipped default value	1024
Allowable Values	0-5000

lockPref.browser.mail.server_type

Defines your mail server type.

Takes Effect	Under Application Control
Retained in Client Memory	No
User Interface Path	Applications->Netscape Communicator->Mail server type:
Registry Object	/netscape/preferences
Category	NETSCAPE
Valid Preference Levels	system, usergroup, user
Value Type	Choice
Shipped default value	0
Allowable Values	0, 1

lockPref.mail.imap.root_dir

Specifies the IMAP4 directory path.

Takes Effect	Under Application Control
Retained in Client Memory	No
User Interface Path	Applications->Netscape Communicator->Mail server type: IMAP4 directory
Registry Object	/netscape/preferences
Category	NETSCAPE
Valid Preference Levels	system, usergroup, user
Value Type	String
Shipped default value	~/ns_imap/
Allowable Values	Any valid client path

lockPref.java.classpath

Specifies Java classpaths for Netscape Communicator to use.

Takes Effect	Under Application Control
Retained in Client Memory	No

User Interface Path	Applications->Netscape Communicator->Netscape Java Classpath options: Netscape Java Classpath:
Registry Object	/netscape/preferences
Category	NETSCAPE
Valid Preference Levels	system, usergroup, user
Value Type	String
Shipped default value	${PRODBASE}/usr/locale/netscape/java/classes/java40.jar/ ${PRODBASE}/usr/local/netscape/java/classes/jae40.jar
Allowable Values	any valid client path appended to above string

ICA Remote Access Manager

ica-connect-records

Lets you configure ICA connections to a PC server.

Takes Effect	Under Application Control
Retained in Client Memory	No
User Interface Path	Applications->ICA Remote Application Manager: ICA Connection Entries
Registry Object	/ica/connections
Category	ICA
Valid Preference Levels	system, usergroup, user
Value Type	List that contains name, command, id
Shipped default value	
Allowable Values	

Appendix E. Regular expression notation

A regular expression specifies a pattern of character strings. One or more regular expressions can be used to create a matching pattern. Certain characters (sometimes called wildcards) have special meanings. Table 25 describes the pattern matching scheme.

Table 25. Regular expression pattern matching

Pattern	Description
string	String (no special characters) - a string with no special characters matches the values that contain the string.
[set]	Set - matches a single character specified by the set of single characters within the square brackets.
^	Caret - signifies the characters following the ^ are the beginning of the value.
$	Dollar - signifies the characters preceding the $ are the end of the value.
.	Period - signifies any one character. The period means match any character.
*	Asterisk - signifies zero or more of preceding character.
\	Backslash - signifies an escape character. When preceding any of the characters that have special meaning, the escape character removes any special meaning from the character. The backslash is useful to remove special meaning from a period in an IP address.

For example:

Table 26. Examples of regular expression pattern matching

Pattern	Examples of strings that match
ibm	ibm01, myibm, aibmbc
^ibm$	ibm
^ibm0[0-4][0-9]$	ibm000 through ibm049
ibm[3-8]	ibm3, myibm4, aibm5b
^ibm	ibm01, ibm
ibm$	myibm, ibm, 3ibm
ibm...	ibm123, myibmabc, aibm09bcd
ibm*1	ibm1, myibm1, aibm1abc, ibmkkkkk12
^ibm0..	ibm001, ibm099, ibm0abcd
^ibm0..$	ibm001, ibm099
10.2.1.9	10.2.1.9, 10.2.139.6, 10.231.98.6
^10\.2\.1\.9$	10.2.1.9
^10\.2\.1\.1[0-5]$	10.2.1.10, 10.2.1.11, 10.2.1.12, 10.2.1.13, 10.2.1.14, 10.2.1.15
^192.\.168\..*\..*$	(All addresses on class B subnet 192.168.0.0)
^192.\.168\.10\..*$	(All addresses on class C subnet 192.168.10.0)

Appendix F. Language and locale

Note: Entities with @euro mean that euro character support is added.

Language	Locale (country)	Value
Danish	Denmark	da_DK
Danish	Denmark	da_DK@euro
German	Switzerland	de_CH
German	Switzerland	de_CH@euro
German	Germany	de_DE
German	Germany	de_DE@euro
English	Great Britain	en_GB (uses en_US)
English	Great Britain	en_GB@euro
English	United States	en_US
English	United States	en_US@euro
Spanish	Spain	es_ES
Spanish	Spain	es_ES@euro
Finnish	Finland	fi_FI
Finnish	Finland	fi_FI@euro
Spanish	Latin America	es_LA (no translation - uses English; keyboard and localization support only)
Spanish	Latin America	es_LA@euro
French	Belgium	fr_BE
French	Belgium	fr_BE@euro
French	Canada	fr_CA
French	Canada	fr_CA@euro
French	Switzerland	fr_CH
French	Switzerland	fr_CH@euro
French	France	fr_FR
French	France	fr_FR@euro
Italian	Switzerland	it_CH
Italian	Switzerland	it_CH@euro
Italian	Italy	it_IT
Italian	Italy	it_IT@euro
Dutch	Belgium	nl_BE
Dutch	Belgium	nl_BE@euro
Dutch	Netherlands	nl_NL
Dutch	Netherlands	nl_NL@euro
Norwegian	Norway	no_NO
Norwegian	Norway	no_NO@euro
Portuguese	Brazil	pt_BR
Portuguese	Brazil	pt_BR@euro

Language	Locale (country)	Value
Portuguese	Portugal	pt_PT
Portuguese	Portugal	pt_PT@euro
Swedish	Sweden	sv_SE
Swedish	Sweden	sv_SE@euro

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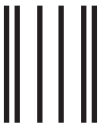

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