IBM Network Station Family of Thin Clients

Access for today, flexibility for tomorrow

Network Station Manager V2R1 Internals

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e-business

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NSM Internals

- NSM / System Structure
- Directory Structure
  - Server Directories
  - Shipped Files and Directories
  - User Data Files and Directories
- Download Profiles
  - Basic Information
  - Location
  - File Descriptions
  - Download Order
  - Preference Hierarchy
  - XML Content
  - Kiosk Templates

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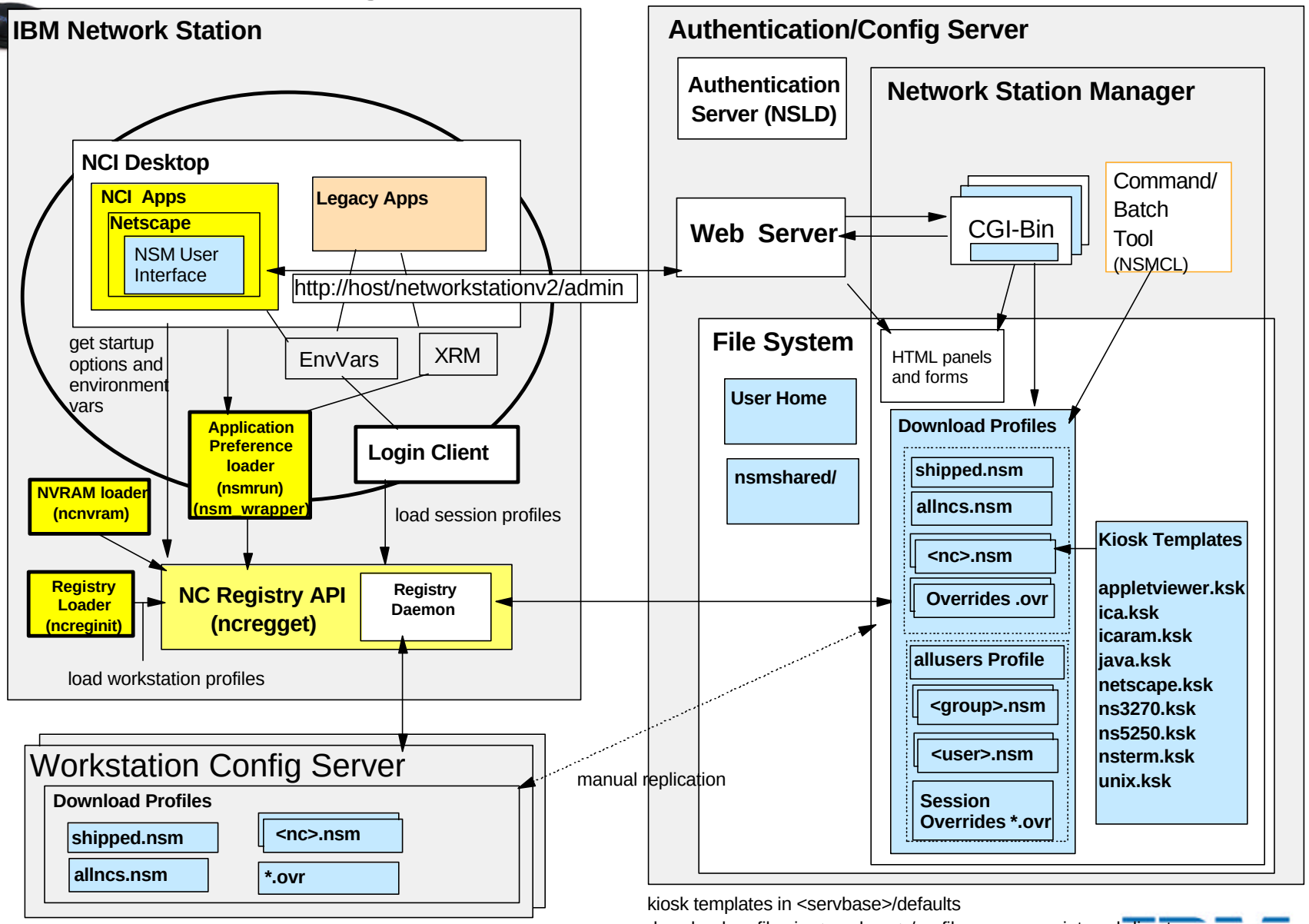
NSM / System Structure



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Directory Structure - Server Directories

Platform	HTTPBASE directory
AS/400	/QIBM/ProdData/HTTP/Protect/NetworkStationV2
Windows NT	X:(float)\NetworkStationV2\servbase\html
AIX	/usr/NetworkStationV2/servbase/html

Platform	PRODBASE directory
AS/400	/QIBM/ProdData/NetworkStationV2
Windows NT	X:(float)\NetworkStationV2\prodbase
AIX	/usr/NetworkStationV2/prodbase

Platform	SERVBASE directory
AS/400	/QIBM/ProdData/NetworkStationV2/nsm
Windows NT	X:(float)\NetworkStationV2\servbase
AIX	/usr/NetworkStationV2/servbase

Platform	USERBASE directory
AS/400	/QIBM/UserData/NetworkStationV2
Windows NT	X:(float)\NetworkStationV2\userbase
AIX	/usr/NetworkStationV2/userbase

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Directory Structure
Shipped Files and Directories

Directory	Description
PRODBASE/	Base directory for shipped files
PRODBASE/x86/	Base directory for shipped X86 client files
PRODBASE/ppc/	Base directory for shipped PPC client files
SERVBASE/	Base directory for shipped files used by server programs
SERVBASE/defaults/	Directory for NSM shipped defaults
shipped.nsm	Download profile containing backup version of NSM shipped preferences
allusers.nsm	Download profile containing backup version of default system-wide NSM launchbar preferences
allncs.nsm	Download profile containing backup version of default system-wide NSM hardware preferences
<application>.ksk	Kiosk templates
SERVBASE/tmpls/	Directory containing NSM HTML templates (used by the CGIs)
SERVBASE/tmpls/<locale>/	Directory containing language-specific HTML templates
HTTPBASE/	Directory containing NSM HTML files
HTTPBASE/<locale>/	Directory containing language-specific HTML files

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Directory Structure

User Data Files and Directories

Directory	Description
USERBASE/	Base directory for user data
USERBASE/profiles/	Directory for NSM download profiles
shipped.nsm	NSM shipped profile for all NCs and users
allusers.nsm	NSM managed system-wide profile for all users
allncs.nsm	NSM managed system-wide profile for all NCs
allusers.ovr	System-wide override profile for all users
USERBASE/profiles/NCs/	Directory for NSM terminal specific download profiles
<ncid>.nsm	NSM managed NC specific profile
<ncid>.ovr	NC specific override profile
USERBASE/profiles/users/	Directory for NSM user specific download profiles
<userid>.nsm	NSM managed user specific profile
<userid>.ovr	User specific override profile
USERBASE/profiles/groups/	Directory for NSM group specific download profiles
<groupid>.nsm	NSM managed group specific profile
<groupid>.ovr	Group specific override profile

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Directory Structure

User Data Files and Directories (continued)

Directory	Description
USERBASE/home/	Network Station home directory
USERBASE/home/<userid>/	User's Network Station home directory
USERBASE/nsmshared/	NSM shared data directory
USERBASE/nsmshared/<userid>/	User's NSM shared data directory
USERBASE/nsmshared/<userid>/NS5250/	User's shared 5250 directory
USERBASE/nsmshared/<userid>/NS3270/	User's shared 3270 directory
USERBASE/nsmshared/<userid>/NSTERM/	User's shared NS Terminal directory
USERBASE/flash/	Directory containing configuration files for the NSM Flash Manager and files to be placed on a flash card image

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Download Profiles

- **Basic Information**
  - Used to store all NSM-saved preferences
  - Read into the Network Station registry, which is accessed by the OS and all client apps to retrieve preferences
  - Stored in a XML format
  - Encoded in UTF-8 code page
- **Location**
  - Profiles are accessed by the registry in the server directory USERBASE/profiles on the terminal and user configuration servers.
  - Backup copies of shipped default files and kiosk templates are stored in the directory SERVBASE/defaults.

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Download Profiles

- **Files**
  - **shipped.nsm**
    - located in USERBASE/profiles on terminal config server
    - contains shipped default preference values
    - should never be edited by a user or administrator
    - backup copy in SERVBASE/defaults
  - **allncs.nsm**
    - located in USERBASE/profiles on terminal config server
    - contains system-wide settings for all Network Stations that use the terminal config server
    - shipped version of this file contains default values for printers
    - backup copy of IBM shipped version in SERVBASE/defaults
  - **allusers.nsm**
    - located in USERBASE/profiles on user config server
    - contains system-wide setting of all users that use the user config server
    - shipped version of this file contains the IBM shipped launchbar setup
    - back copy of IBM shipped version in SERVBASE/defaults

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Download Profiles

- **Files (continued)**
  - **<groupid>.nsm**
    - located in USERBASE/profiles/groups on the user config server
    - contains the preferences for the group named <groupid>
  - **<userid>.nsm**
    - located in USERBASE/profiles/users on the user config server
    - contains the preferences for the user named <userid>
  - **<ncid>.nsm**
    - located in USERBASE/profiles/NCs on the terminal config server
    - contains the preferences for the Network Station named <ncid>
    - <ncid> can be either the fully qualified domain name, the IP address, or the MAC address of the Network Station
  - **allusers.ovr, <userid>.ovr, <groupid>.ovr, and <ncid>.ovr**
    - override files for users and Network Stations
    - located in the same directories as their corresponding .NSM files
    - these can be hand-editted, and are the only files that should be hand-editted
    - should only be used if absolutely necessary

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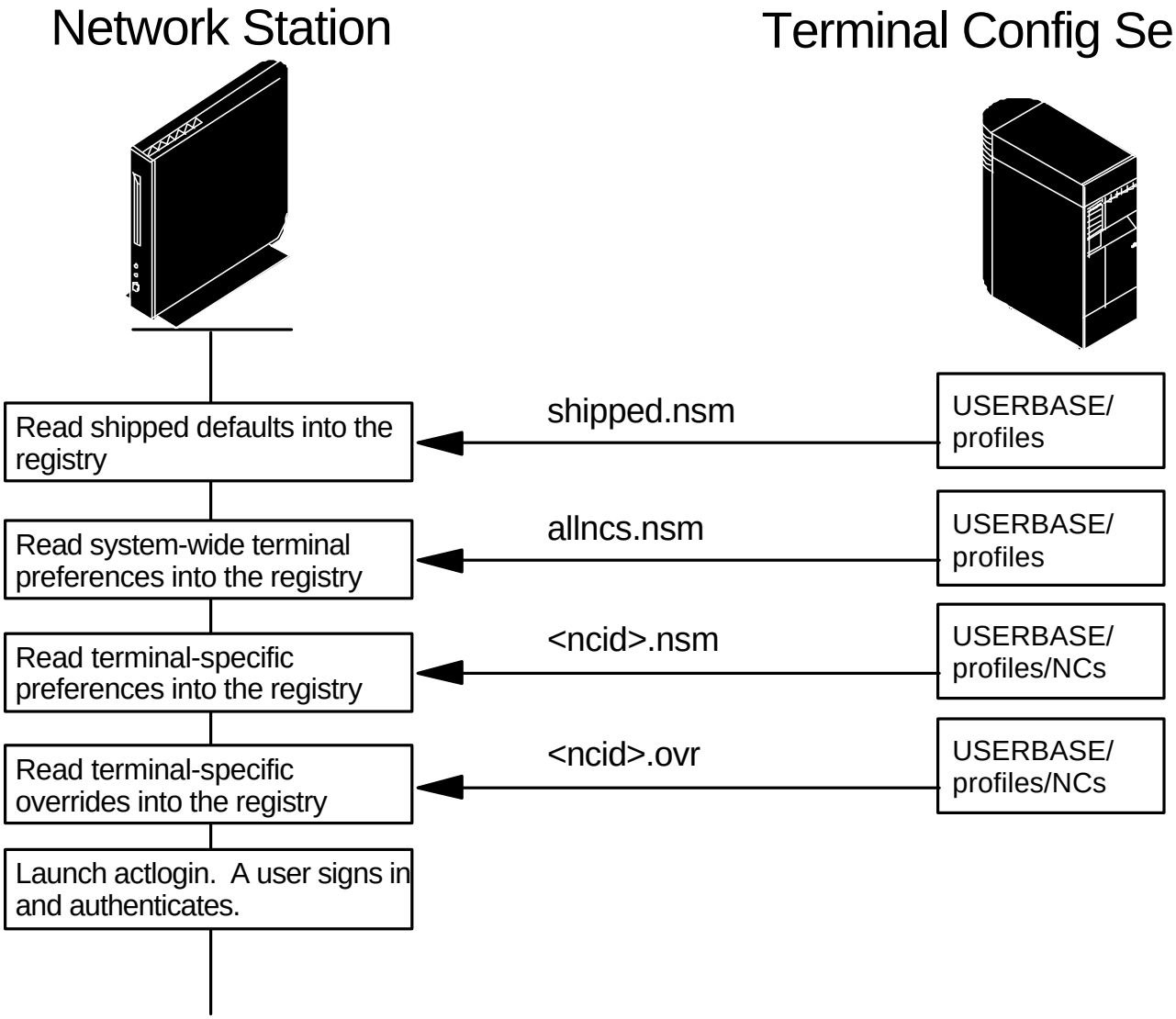
Download Order - Phase 1



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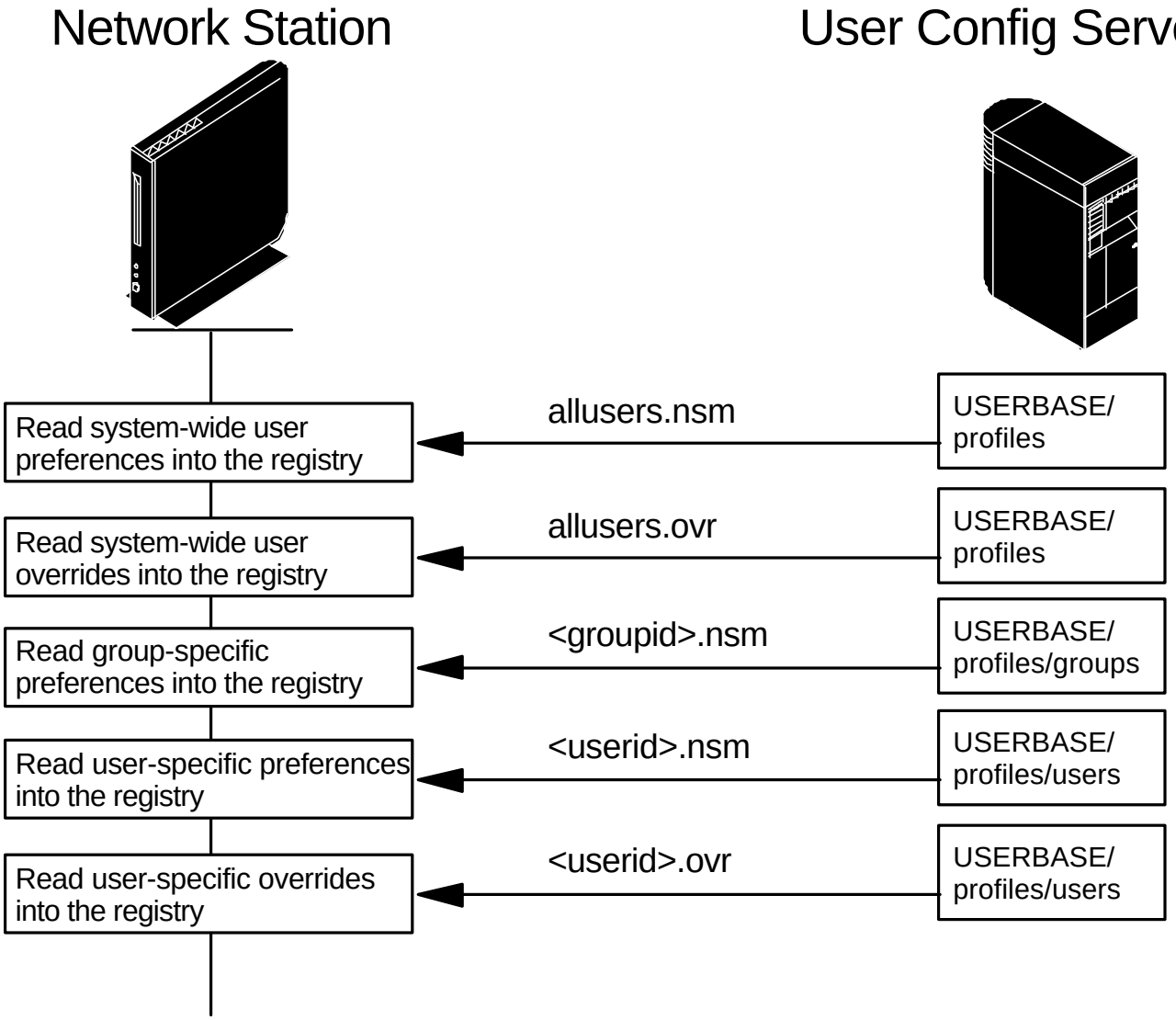
Download Order - Phase 2



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Download Order - Configuration Values

- **Configuration values that alter the download sequence:**
  - **RULES preferences (set in the RULES category using the command line utility)**
    - NSM_ALLOW_OVERRIDES - if this is DISABLE (the default), override (.ovr) files will not be read.
    - NSM_NC_NAME_TYPE - can be ANY, IP_ADDRESS, MAC_ADDRESS, HOST_NAME. Determines the naming convention for <ncid> files that must be used. ANY (the default) means that any of the three can be used.
    - NSM_ACCESS_NC_CONFIG - if this is DISABLE, <ncid>.nsm and <ncid>.ovr files will not be read.
    - NSM_ACCESS_GROUP_CONFIG - if this is DISABLE, <groupid>.nsm and <groupid>.ovr files will not be read.
    - NSM_ACCESS_USER_CONFIG - if this is DISABLE, <userid>.nsm and <userid>.ovr files will not be read.
  - **NSM_KIOSK_MODE environment variable**
    - If this is "ON", the login panel is bypassed, no authentication is done, and none of the files from the user config server are read.

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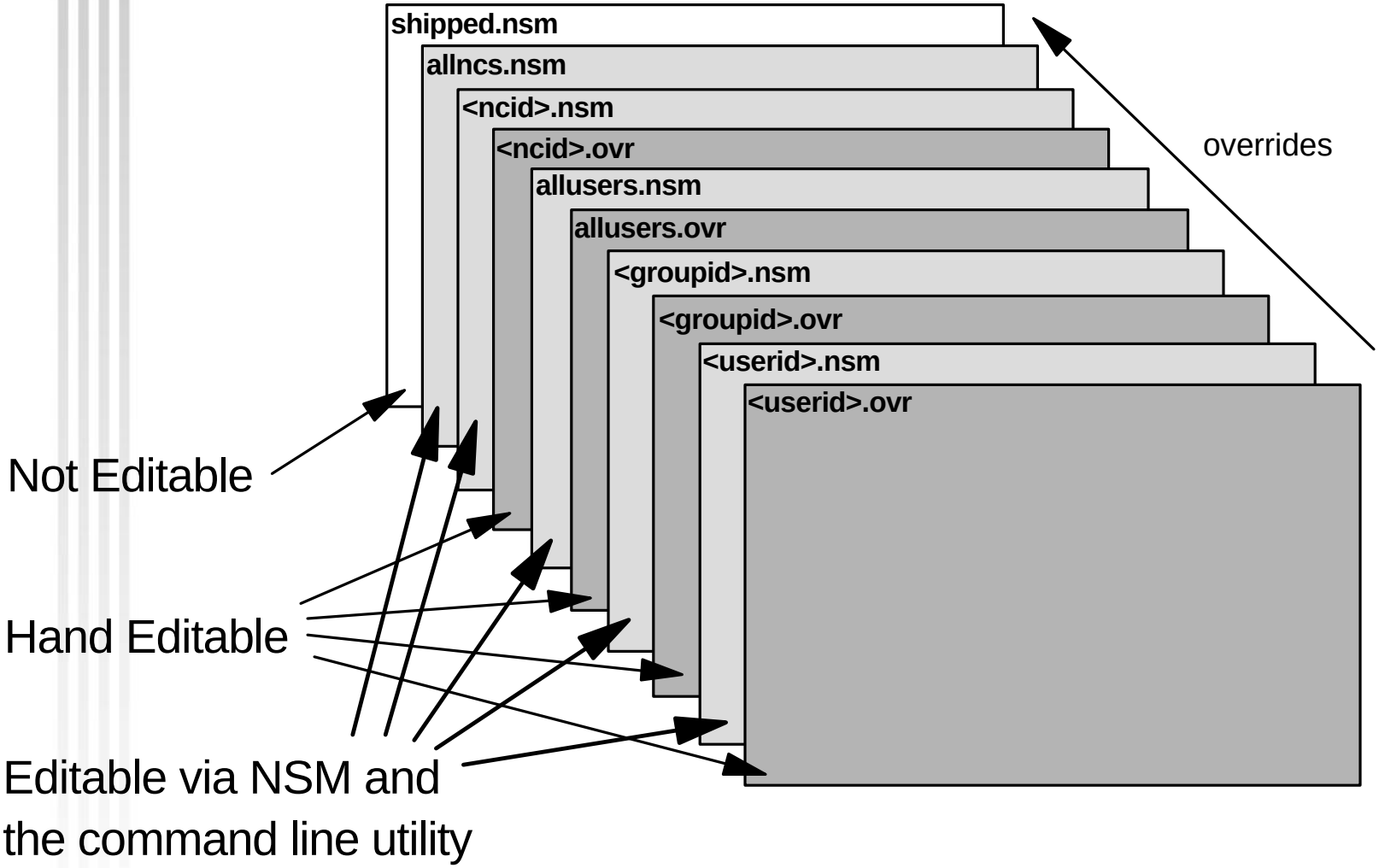
Download Profiles - preference hierarchy



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Download Profiles - XML content - page 1

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE NCREGISTRY SYSTEM "registry.dtd" >
<NCREGISTRY VERSION="1.0">
<PACKAGE NAME="/desktops/default">
<CATEGORY NAME="LAUNCHBAR">
<ITEM NAME="5250-5250-user-1">
<FIELD NAME="nsm_type">5250</FIELD>
<FIELD NAME="name"></FIELD>
<FIELD NAME="resource">5250</FIELD>
<FIELD NAME="normal_icon">5250n.xpm</FIELD>
<FIELD NAME="active_icon">5250a.xpm</FIELD>
<FIELD NAME="highlight_icon">5250h.xpm</FIELD>
<FIELD NAME="pressed_icon">5250p.xpm</FIELD>
<FIELD NAME="minimized_icon">5250m.xpm</FIELD>
<FIELD NAME="icon_priority">292</FIELD>
<FIELD NAME="type">application/native-module</FIELD>
<FIELD NAME="command">nsm_wrapper ns5250</FIELD>
<FIELD NAME="kill_priority">4</FIELD>
<FIELD NAME="activate_class">no</FIELD>
<FIELD NAME="x11_class">NS5250</FIELD>
<FIELD NAME="memory_size">3072</FIELD>
<FIELD NAME="save_size">no</FIELD>
<FIELD NAME="save_position">no</FIELD>
</ITEM>
</CATEGORY>
</PACKAGE>
<PACKAGE NAME="/startup">
<CATEGORY NAME="STARTUP">
</CATEGORY>
</PACKAGE>
```

Header

Package Start

Category Start

Item Start

Fields

Item End

Category End

Package End

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Download Profiles - XML content - page 2

```
<OBJECT NAME="/login/session">
<CATEGORY NAME="ENVVARS">
<PROPERTY NAME="commands" TYPE="LIST" ACTION="APPEND">
<ELEMENT>
<FIELD NAME="op">SET</FIELD>
<FIELD NAME="arg1">ENVVAR1</FIELD>
<FIELD NAME="arg2">VALUE1</FIELD>
</ELEMENT>
</PROPERTY>
</CATEGORY>
<CATEGORY NAME="HLOGIN">
</CATEGORY>
</OBJECT>
<OBJECT NAME="/config">
<CATEGORY NAME="WORKSTATION">
<PROPERTY
NAME="pref-mouse-arrangement">right-handed</PROPERTY>
</CATEGORY>
</OBJECT>
</NCREGISTRY>
```

Object Start

Category Start

List Property Start

Element Start

Fields (Environment Variable)

Element End

List Property End

Object End

String Property

End of XML file

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Kiosk Templates

- **Basic Information**
  - Application-specific download profile templates
  - Bring up a single application instance, bypass the login panel
  - Located in SERVBASE/defaults and named <appname>.ksk
  - To use a template, copy it to USERBASE/profiles/NCs and name it <ncid>.nsm or <ncid>.ovr
  - Some templates require editing before they can be used
- **Shipped Templates**
  - appletviewer.ksk - Java Applet
  - ica.ksk - ICA Connection
  - icaram.ksk - ICA Remote Application Manager
  - java.ksk - Java Application
  - netscape.ksk - Netscape Browser
  - ns3270.ksk - 3270 Emulator
  - ns5250.ksk - 5250 Emulator
  - nsterm.ksk - VT Emulator
  - unix.ksk - XTerm

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Netscape Kiosk Template - page 1

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE NCREGISTRY SYSTEM "ncregistry.dtd" >
<!-- Netscape Sample Profile for Single Application (kiosk) Mode -->
<NCREGISTRY>
<OBJECT NAME="/config">
<CATEGORY NAME="WORKSTATION">
<PROPERTY NAME="pref-screen-background-color">black</PROPERTY>
</CATEGORY>
</OBJECT>
<OBJECT NAME="/desktop/preferences">
<CATEGORY NAME="DESKTOP">
<PROPERTY NAME="desktop_command">run_netscape</PROPERTY>
<PROPERTY NAME="lock_screen">no</PROPERTY>
</CATEGORY>
</OBJECT>
<OBJECT NAME="/login/session">
<CATEGORY NAME="KIOSK">
<PROPERTY NAME="commands" TYPE="LIST" ACTION="APPEND">
<ELEMENT>
<FIELD NAME="op">SET</FIELD>
<FIELD NAME="arg1">NSM_KIOSK_MODE</FIELD>
<FIELD NAME="arg2">ON</FIELD>
</ELEMENT>
</PROPERTY>
</CATEGORY>
```


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Netscape Kiosk Template - page 2

```
<CATEGORY NAME="INTERNET">
<PROPERTY NAME="commands" TYPE="LIST" ACTION="APPEND">
<ELEMENT>
<FIELD NAME="op">SET</FIELD>
<FIELD NAME="arg1">FTP_PROXY_HOST</FIELD>
<FIELD NAME="arg2">yourproxy.server.com</FIELD>
</ELEMENT>
<ELEMENT>
<FIELD NAME="op">SET</FIELD>
<FIELD NAME="arg1">FTP_PROXY_PORT</FIELD>
<FIELD NAME="arg2">81</FIELD>
</ELEMENT>
<ELEMENT>
<FIELD NAME="op">SET</FIELD>
<FIELD NAME="arg1">FTP_PROXY_OVERRIDES</FIELD>
<FIELD NAME="arg2"></FIELD>
</ELEMENT>
<ELEMENT>
<FIELD NAME="op">SET</FIELD>
<FIELD NAME="arg1">GOPHER_PROXY_HOST</FIELD>
<FIELD NAME="arg2">yourproxy.server.com</FIELD>
</ELEMENT>
<ELEMENT>
<FIELD NAME="op">SET</FIELD>
<FIELD NAME="arg1">GOPHER_PROXY_PORT</FIELD>
<FIELD NAME="arg2">81</FIELD>
</ELEMENT>
<ELEMENT>
<FIELD NAME="op">SET</FIELD>
<FIELD NAME="arg1">GOPHER_PROXY_OVERRIDES</FIELD>
<FIELD NAME="arg2"></FIELD>
</ELEMENT>
```


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Netscape Kiosk Template - page 3

```
<ELEMENT>
<FIELD NAME="op">SET</FIELD>
<FIELD NAME="arg1">HTTP_PROXY_HOST</FIELD>
<FIELD NAME="arg2">yourproxy.server.com</FIELD>
</ELEMENT>
<ELEMENT>
<FIELD NAME="op">SET</FIELD>
<FIELD NAME="arg1">HTTP_PROXY_PORT</FIELD>
<FIELD NAME="arg2">81</FIELD>
</ELEMENT>
<ELEMENT>
<FIELD NAME="op">SET</FIELD>
<FIELD NAME="arg1">HTTP_PROXY_OVERRIDES</FIELD>
<FIELD NAME="arg2"></FIELD>
</ELEMENT>
<ELEMENT>
<FIELD NAME="op">SET</FIELD>
<FIELD NAME="arg1">HTTPS_PROXY_HOST</FIELD>
<FIELD NAME="arg2">yourproxy.rchland.ibm.com</FIELD>
</ELEMENT>
<ELEMENT>
<FIELD NAME="op">SET</FIELD>
<FIELD NAME="arg1">HTTPS_PROXY_PORT</FIELD>
<FIELD NAME="arg2">81</FIELD>
</ELEMENT>
<ELEMENT>
<FIELD NAME="op">SET</FIELD>
<FIELD NAME="arg1">SOCKS_HOST</FIELD>
<FIELD NAME="arg2"></FIELD>
</ELEMENT>
<ELEMENT>
<FIELD NAME="op">SET</FIELD>
<FIELD NAME="arg1">SOCKS_PORT</FIELD>
<FIELD NAME="arg2"></FIELD>
</ELEMENT>
<ELEMENT>
<FIELD NAME="op">SET</FIELD>
<FIELD NAME="arg1">HOME_PAGE</FIELD>
<FIELD
NAME="arg2">http://www.ibm.com/</FIELD>
</ELEMENT>
</PROPERTY>
</CATEGORY>
</OBJECT>
</NCREGISTRY>
```


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