



Administration Guide for Cisco Virtualization Experience Client 6215 Firmware Release 8.6

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Preface

Overview

The Cisco Virtualization Client 6215 (Cisco VXC 6215) delivers superior voice and video collaboration capabilities in desktop virtualization. It unifies voice, video, and virtual desktop in one device.

The Cisco VXC 6215 provides workers with secure, real-time access to business applications and content without compromising the collaborative user experience. Cisco VXC 6215 supports the following capabilities:

- Combines virtual desktops with voice and video capabilities
- Supports processing capabilities that use network and data center CPU resources efficiently
- Supports high-quality, scalable voice and video, delivering an optimal user experience

The Cisco VXC 6215 provides support for the following hosted virtual desktop protocols:

- Citrix Independent Computing Architecture (ICA)
- PC over IP (PCoIP) (in base virtual desktop infrastructure [VDI] mode only)
- Remote Desktop Protocol (RDP) (in base VDI mode only)

By default, the firmware installed on the Cisco VXC 6215 client is Base VDI Firmware. The Base VDI firmware supports desktop virtualization capabilities, but does not provide the additional voice and video functionality required for Unified Communications. To support Unified Communications, you must purchase and install the Voice and Video Firmware Add-on. For more information, see the *Deployment Guide for Voice and Video Firmware for Cisco Virtualization Experience Client 6215*.

The following table describes the virtual desktop protocol releases that support Base VDI Firmware only and those that support Base VDI Firmware with the Voice and Video Firmware Add-on.

| Firmware | Supported Virtual Desktop Application Releases |
|--|--|
| Base VDI Firmware only | <ul style="list-style-type: none">• Citrix ICA Agent 12 with browser plug-in• Citrix XenDesktop 4.0, 5.0, and 5.5• VMware View Agent 4.6, which supports PCoIP or RDP 7 connections to VMware View Connection Server 4.6 and 5.0 |
| Base VDI Firmware with Voice and Video Firmware Add-on | <ul style="list-style-type: none">• Citrix ICA Agent 12 with browser plug-in• Citrix XenDesktop 4.0, 5.0, and 5.5 (Release 4.0 and 5.0 require the latest VDA 5.5 plugin) |

**Note**

This document describes Base VDI firmware functionality only. For information on Voice and Video Firmware, see the *Deployment Guide for Voice and Video Firmware for Cisco Virtualization Experience Client 6215*.

Audience

This guide is intended for administrators of Cisco VXC 6215 clients. It provides information and detailed system configurations to help you design and manage your thin client environment.

Organization

This manual is organized as described in the following table.

| Chapter | Description |
|--|---|
| Chapter 1, “Central Configuration Using Cisco VXC Manager” | Provides information about basic thin client management functions and describes how to centrally configure the thin client |
| Chapter 2, “Cisco VXC Manager Configuration Quick Reference” | Provides quick reference information for managing the thin client using Cisco VXC Manager. |
| Chapter 3, “Desktop Basics” | Provides information to quickly learn the desktop basics and get started using your thin client |
| Chapter 4, “Accessing Applications with the Application Browser” | Provides detailed information about using the Application Browser to access the applications, audio and video, and system features installed on the thin client |
| Appendix A, “Central Configuration Using File Server” | Describes an alternative method of central configuration using a file server |
| Appendix B, “Using TightVNC Viewer to Shadow or Monitor a Thin Client” | Describes how to use VNC for remote access and monitoring of the thin client |

Related Documentation

For more information, see the documents available at the following URLs:

Cisco Virtualization Experience Client 6000 Series

http://www.cisco.com/en/US/products/ps11976/tsd_products_support_series_home.html

Cisco Virtualization Experience Client Manager

http://www.cisco.com/en/US/products/ps11582/tsd_products_support_series_home.html

Obtaining Documentation, Obtaining Support, and Security Guidelines

For information on obtaining documentation, obtaining support, providing documentation feedback, security guidelines, and also recommended aliases and general Cisco documents, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

<http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>

Subscribe to the *What's New in Cisco Product Documentation* as a Really Simple Syndication (RSS) feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service and Cisco currently supports RSS Version 2.0.

Document Conventions

This document uses the following conventions:



Note

Means *reader take note*. Notes contain helpful suggestions or references to material that is not covered in the publication.



Caution

Means *reader be careful*. In this situation, you might do something that could result in equipment damage or loss of data.

Warnings use the following convention:



Warning

IMPORTANT SAFETY INSTRUCTIONS

This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. Use the statement number provided at the end of each warning to locate its translation in the translated safety warnings that accompanied this device. Statement 1071

SAVE THESE INSTRUCTIONS



CHAPTER 1

Central Configuration Using Cisco VXC Manager

This chapter provides information to help you manage your thin clients. It describes basic thin client management functions and provides information about setting up the thin client for your users.

Cisco thin clients are designed to be centrally managed and configured using INI files and the Cisco VXC Manager. Cisco VXC Manager allows you to automatically push updates and any desired default configuration to all supported thin clients in your environment.

This chapter includes:

- [Cisco VXC Manager, page 1-1](#)
- [INI Files, page 1-1](#)
- [Cisco VXC 6215 Add-Ons, page 1-2](#)
- [High-Level Administration Steps, page 1-3](#)
- [Recognizing USB Devices with Citrix XenDesktop, page 1-5](#)
- [Monitor Resolution Configuration, page 1-7](#)

Cisco VXC Manager

Cisco VXC Manager is the standard tool used to push and schedule INI configuration updates to your thin clients. Cisco VXC Manager allows you to configure, upgrade, and administer your clients from a single interface. Cisco VXC Manager also allows you to specify default configurations that are common to all of the thin clients in your environment. It also allows you to enable or disable add-ons, which can provide additional functionality in addition to the underlying firmware.

For detailed information about using Cisco VXC Manager, see *Administration Guide for Cisco Virtualization Experience Client Manager*.

INI Files

INI files are plain-text files that you can use to centrally manage and configure your thin clients on a global level. For example, you can use INI files to configure and save information about connection settings, display options, and printer options. The INI files are maintained on a central server (FTP, HTTP, or HTTPS), and the thin client accesses the INI files from the server during the initialization process.

INI files are employed as follows:

- `wlx.ini`—This is the global INI file. One `wlx.ini` file is available to all users. It contains global parameters for all thin clients accessing the server.
- `$MAC.ini`—This file is used for device-specific configuration. It is stored in the same directory as the `wlx.ini` file. If the thin client locates this INI file on the server, the thin client uses the `$MAC.ini` file for its configuration rather than the `wlx.ini` file. In this case, the thin client does not access the `wlx.ini` file unless you specify the `include=wlx.ini` parameter in the `$MAC.ini` file.

When a thin client is initialized, it accesses the global `wlx.ini` file (or `$MAC.ini` file, if present).

For detailed information on constructing and using INI files with the Cisco VXC 6215, see *Cisco Virtualization Experience Client 6215 INI Files Reference Guide*.

Cisco VXC 6215 Add-Ons

The Cisco VXC 6215 firmware includes default add-ons that provide increased security for the thin client and minimize the exposure of the SUSE Linux base operating system to users, while still providing users with useful functionality.

Add-ons are feature-specific software components that provide additional customized functionality on the Cisco VXC 6215 thin clients without affecting the underlying operating system files.

The Cisco add-on applications that are bundled by default on the Cisco VXC 6215 include the following:

Autologin

The Autologin (`autologin-1.0-2.sletc11sp1.rpm`) add-on allows the Cisco VXC 6215 to boot with the thin user credentials without requiring the user to provide the credentials.

After the thin client boots up, the login screen initially appears, and after approximately 10 to 15 seconds, the thin client automatically logs the user into the thin client using `thinuser/thinuser` as the default username and password.



Caution

For proper operation of the Cisco VXC 6215, the Autologin add-on must always be enabled and running on the thin client (the default configuration). Do not remove or disable the Autologin add-on as this is an unsupported configuration. Operation with the Autologin add-on enabled is the only supported mode of operation. If you do remove the Autologin add-on, you must reinstall it by reinstalling the latest Base VDI Firmware Release available on cisco.com.

CiscoConfig

The CiscoConfig add-on (`ciscoconfig-1.0-2.sletc11sp1.rpm`) provides additional functionality to the user beyond that provided by the Autologin add-on. With the CiscoConfig add-on, the Cisco VXC 6215 provides access to additional applications including system information, display settings, Cisco VXC Manager settings, and the Firefox browser through the Application Browser (**Computer > More Applications**).



Caution

As the CiscoConfig add-on is required for proper functioning of the Autologin add-on, the CiscoConfig add-on must always be enabled and running on the thin client (the default configuration). If you do remove the CiscoConfig add-on, you must reinstall it by reinstalling the latest Base VDI Firmware Release available on cisco.com.

Ssh_opt

The Cisco VXC 6215 can support remote connections to the thin client using SSH. To provide increased security, the ssh_opt add-on (ssh_opt-1.0-1.0.sletc11sp1.rpm) disables SSH functionality by default.



Note

To enable the SSH functionality on the Cisco VXC 6215 devices using Cisco VXC Manager, in the Device Manager, right-click the device and choose **Execute Command**. In the Execute Command dialog box, type `/etc/init.d/ssh start` to enable the SSH functionality. If the SshOpt add-on is installed on the Cisco VXC device, then the SshOpt add-on sets the OpenSSH idle timeout to 30 minutes and the maximum timeout to 60 minutes. (These default SSH idle timeout values cannot be modified.)

You can use the Cisco VXC Manager to enable and disable add-ons on your thin client. For more information, see *Administration Guide for Cisco Virtualization Experience Client Manager*.

Optional Voice and Video Firmware Add-on

To support Unified Communications on the Cisco VXC 6215, you can purchase and install the Voice and Video Firmware Add-on. The optional Voice and Video Firmware add-on provides Unified Communications functionality for Cisco UC Integration for Microsoft Lync and Cisco Unified Personal Communicator.

With the Voice and Video Firmware add-on, users in a virtual environment can use Cisco UC Integration for Microsoft Lync or Cisco Unified Personal Communicator from their thin clients. The Voice and Video Firmware runs on the thin client, and Cisco UC Integration for Microsoft Lync or Cisco Unified Personal Communicator runs on the Windows hosted virtual desktop.

Disabled Power Management Settings with Voice and Video Firmware Add-on

By default with the Base VDI Firmware, the Cisco VXC 6215 supports a power management setting (EnergyWise) whereby the clients enter the sleep mode after a specified period of time. When the Voice Video Firmware add-on is enabled, this power management setting is disabled, and the clients do not enter the sleep mode.

For more information on the optional Voice and Video Firmware add-on, see the *Deployment Guide for Voice and Video Firmware for Cisco Virtualization Experience Client 6215*.

High-Level Administration Steps

The following are the high-level steps that are required to set up your thin client environment. See the referenced guides and [Chapter 2, “Cisco VXC Manager Configuration Quick Reference”](#) for the detailed steps required.

Procedure

- Step 1** Set up your virtualization server (see your virtualization server documentation).
- Step 2** Install and set up the Cisco VXC Manager (see *Installation Guide for Cisco Virtualization Experience Client Manager*).
- Step 3** Create the INI files to centrally configure the thin clients and place them on the server (see *Cisco Virtualization Experience Client 6215 INI Files Reference Guide*).

**Caution**

By default, an administrator username and password admin/admin is specified on the thin client. Cisco VXC 6215 does not support operation of the client using the administrator username and password in the current release (the only supported mode of operation is using the thinuser credentials). However, Cisco recommends that you change the administrator password using INI parameters to prevent unauthorized access to the client.

Step 4 Set up a configuration package in Cisco VXC Manager referencing the desired INI configuration. You can also optionally set up an add-on package to push additional add-ons to the thin clients (see *Administration Guide for Cisco Virtualization Experience Client Manager*).

Step 5 Set up device discovery in Cisco VXC Manager (DHCP is the recommended method—see *Administration Guide for Cisco Virtualization Experience Client Manager*).

**Caution**

For proper operation of the thin clients, you must specify a value either for DHCP Option 15 (Domain Name) or for DHCP Option 6 (Domain Server) in the DHCP server configuration. If you do not specify a standard domain name for DHCP Option 15, and you do not specify a standard domain server for DHCP Option 6, you must specify “none” for DHCP Option 15. This configuration is necessary whether or not you are using DHCP to direct the thin clients to the central server.

Step 6 Connect the thin clients to the network and power them up.

The thin clients automatically update to the latest INI file configuration and add-ons, as applicable.

Cisco VXC 6215 Deployment with a Cisco Virtual Office Router

When the Cisco VXC 6215 is first deployed behind a Cisco Virtual Office Router, the thin client must authenticate with the Cisco Virtual Office Router VPN tunnel before accessing the network and connecting to the Cisco VXC Manager. To authenticate the thin client, the user must use the Firefox browser to enter the necessary credentials. In addition, to communicate with the Cisco VXC Manager, the user must provide the Cisco VXC Manager server IP address.

**Note**

This procedure is required only for the initial connection to the network from behind a Cisco Virtual Office router. The procedure assumes a factory new Cisco VXC 6215. Subsequent connections do not require these steps. The procedure also assumes that you have set up the thin client environment, including the configuration of connection parameters (Connect options) in the INI file to allow connection to a virtualization server.

Procedure

Step 1 Connect the Cisco VXC 6215 to the Cisco Virtual Office router.

Step 2 Power up the Cisco VXC 6215.

Step 3 Click **Computer > More Applications > Firefox** to launch the Firefox web browser.

The Cisco Virtual Office router prompts the user for credentials.

Step 4 Enter the required Cisco Virtual Office router credentials.

Firefox displays the home page.

- Step 5** From the desktop, click **Computer > More Applications > VXC-M**.
- Step 6** In the VXC-M Server field, enter the IP address of the Cisco VXC Manager.
- Step 7** In the Client to Server Port field, enter **80** (or a custom port for your Cisco VXC Manager setup, as required).
- Step 8** In the Secure Port field, enter **443** (or a custom port for your Cisco VXC Manager setup, as required).
- Step 9** Click **OK**, and then wait for a period of 2 minutes to allow Cisco VXC Manager to discover the client. When the device is discovered, it appears in the Cisco VXC Manager as a new device with a green status, and the administrator can configure it.
- Step 10** After the 2-minute period, reboot the thin client. After the reboot the thin client downloads the wlx.ini file (the download can last a few minutes).
- Step 11** After the download is complete, a Firefox shortcut icon appears on the desktop providing a connection to the hosted virtual desktop. Double-click the icon to connect to the hosted virtual desktop.



Note If required, the administrator can push a new build to the thin client, which obtains it when you reboot in Step 10 or in a subsequent reboot.

Recognizing USB Devices with Citrix XenDesktop

The following are configuration guidelines for allowing the thin client to recognize USB devices in a Citrix XenDesktop environment.

Common Guidelines for XenDesktop 4.0, 5.0, and 5.5

The following guidelines are common for XenDesktop 4.0, 5.0, and 5.5:

- To allow the client to recognize any USB device, include the following option in the INI file for the client.

```
ICADesktopApplianceMode=yes
```

- To enable Multimedia Redirection for redirecting audio and video (WMV, MPEG, AVI, MP3, and so on) to the Cisco VXC 6215, also include the following parameters in the INI file:

```
ICAMMVideo=yes  
ICAMMAudio=yes
```

Recognizing USB Cameras with Citrix XenDesktop

To allow applications to use USB cameras within the XenDesktop session, you can configure the Cisco VXC 6215 to use either HDX RealTime Webcam video compression or HDX Plug-n-Play technology.

With HDX RealTime Webcam video compression, the Cisco VXC 6215 captures the video data, compresses it, and then sends the video data to the XenDesktop session.

With HDX Plug-n-Play technology, the USB camera is detached from the Cisco VXC 6215 and virtually attached to the XenDesktop session. All the native functionalities of the USB camera are available in the XenDesktop session.

Both HDX RealTime Webcam and HDX Plug-n-Play are supported with Base VDI-only firmware and with the Voice and Video Firmware Add-on. However, HDX RealTime Webcam is the recommended option as it is a more scalable and robust solution.

**Note**

HDX Plug-n-Play is available in XenDesktop 4.0, 5.0, and 5.5, but HDX RealTime Webcam is only available in Release 5.0 and later.

For additional details, see XenDesktop documentation.

Guidelines for HDX Plug-n-Play with XenDesktop 4.0

To use HDX Plug-n-Play for USB camera operation with XenDesktop 4.0, see the following guidelines:

- To allow the client to recognize any USB device, configure the XenDesktop policies to allow USB redirection. (See XenDesktop documentation for details.)
- In addition, include the ICAAllowUSB parameter in the INI file for the client, specifying the VID/PID combination for the specific devices to be recognized.

For example, to recognize the Logitech Quickcam Pro 9000 (VID=046d, PID=0809) and the Microsoft LifeCam Cinema (VID=045e, PID=075d), include the following in the INI file:

```
ICAAllowUSB=vid=046d,pid=0809,vid=045e,pid=075d
```

Guidelines for HDX Plug-n-Play with XenDesktop 5.0 and 5.5

To use HDX Plug-n-Play for USB camera operation with XenDesktop 5.0 and 5.5, see the following guidelines:

- To allow the client to recognize any USB device, configure the XenDesktop user policy to allow USB redirection. (See XenDesktop documentation for details.)
- To allow all USB devices or all devices of a certain class (for example, CD drives or cameras) to be recognized, configure the XenDesktop default USB policy rules. (For details, see the XenDesktop Administrator's Guide.)

Alternatively, or if you still encounter issues with particular devices even after configuring allowed device classes, do the following:

- Configure the user policy to specify the PID and VID of the USB devices in use. (See XenDesktop documentation for details.)
- Include the ICAAllowUSB parameter in the INI file for the client, specifying the VID/PID combination for the specific devices to be recognized.

For example, to recognize the Logitech Quickcam Pro 9000 (VID=046d, PID=0809) and the Microsoft LifeCam Cinema (VID=045e, PID=075d), enter the following:

```
ICAAllowUSB=vid=046d,pid=0809,vid=045e,pid=075d
```


Guidelines for HDX RealTime Webcam for XenDesktop 5.0 and 5.5

To use HDX Realtime Webcam for USB camera operation with XenDesktop 5.0 and 5.5, see the following guidelines:

- Configure the XenDesktop policies to enable HDX RealTime. (See XenDesktop documentation for details.)
- Remove any ICAAllowUSB parameter configuration from the INI file for the thin client. Optionally, you can also include the following parameter in the INI file:

```
ICADenyUSB=a11
```

Monitor Resolution Configuration

For most monitors, the thin client automatically obtains the correct resolution to display from the monitor itself.

For monitors that do not fully support the VESA standards (generally older models), the thin client may not be able to display the monitor resolution correctly, resulting in a black screen. The workaround for this issue is to push an INI file containing the correct display settings to the thin client using Cisco VXC Manager or the FTP file server.

The following is an example configuration using the DisplaySettings INI parameter to specify the resolution for monitor 1 to be 1024 x 768, with no rotation:

```
DisplaySettings=MON1 rotate-normal 1024x768
```

For more information about configuring this INI parameter, see *Cisco Virtualization Experience Client 6215 INI Files Reference Guide*.



CHAPTER 2

Cisco VXC Manager Configuration Quick Reference

This chapter provides a quick reference for the Cisco VXC Manager procedures required to upgrade client configurations, upgrade firmware, and enable add-ons on the Cisco VXC 6215. For detailed information about using Cisco VXC Manager, see *Administration Guide for Cisco Virtualization Experience Client Manager*.



Note

Before you can perform the procedures in this document, you must perform the following prerequisites:

- Set up your virtualization server (see your virtualization server documentation).
 - Install and set up the Cisco VXC Manager (see *Installation Guide for Cisco Virtualization Experience Client Manager*).
 - Connect at least one Cisco VXC 6215 to your network and power it on.
-

This document contains the following topics:

- [Client Discovery Using Cisco VXC Manager, page 2-2](#)
- [Create a wlx.ini File for Client Configuration, page 2-8](#)
- [Create a Cisco VXC Manager Package for the wlx.ini File, page 2-10](#)
- [Schedule Device Updates Using Default Device Configuration, page 2-12](#)
- [Schedule Device Updates Using the Drag-and-Drop Method, page 2-14](#)
- [Optional Voice and Video Firmware Add-On, page 2-15](#)
- [Register a Package to Enable a Cisco Add-On, page 2-15](#)
- [Update the Cisco VXC 6215 Base VDI Firmware, page 2-16](#)
- [Configure Multimedia Redirection with a Proxy Server, page 2-17](#)

Client Discovery Using Cisco VXC Manager

Cisco VXC Manager is the standard tool for managing the Cisco VXC 6215. Cisco VXC Manager allows you to configure, upgrade, and administer your thin clients from a single interface. It also allows you to specify default configurations that are common to all of the thin clients in your environment. You can also use it to enable add-ons, which provide additional functionality in addition to the underlying firmware.

Cisco VXC Manager can discover the Cisco VXC 6215 devices in your network using either dynamic discovery or a manual process. After Cisco VXC Manager identifies the devices in the network, it stores information about them in the Cisco VXC Manager Database. You can then use Cisco VXC Manager to manage the devices.

For the Cisco VXC 6215, the recommended discovery method uses a DHCP server. In this case, you must configure DHCP Option Tags (186 and 190, or 186 and 192) on your DHCP server to specify the IP address and port of the Cisco VXC Manager Web Server. The Cisco VXC Manager Agent (HAgent) on the Cisco VXC 6215 uses this information to communicate with the Cisco VXC Manager Web Server, performing check-ins at boot up and at regular intervals. The HAgent provides the Cisco VXC Manager with device information including device name, hardware information, network information, and image version.

For detailed configuration steps for DHCP discovery, see [Configuring the DHCP Server for Device Discovery, page 2-2](#).



Caution

For proper operation of the thin clients, you must specify a value either for DHCP Option 15 (Domain Name) or for DHCP Option 6 (Domain Server) in the DHCP server configuration. If you do not specify a standard domain name for DHCP Option 15, and you do not specify a standard domain server for DHCP Option 6, you must specify “none” for DHCP Option 15. This configuration is necessary whether or not you are using DHCP to direct the thin clients to the central server.

For information about additional discovery methods with Cisco VXC Manager, see *Administration Guide for Cisco Virtualization Experience Client Manager*.

Configuring the DHCP Server for Device Discovery

To allow Cisco VXC Manager to discover the Cisco VXC 6215 devices, configure the following option tag values on your DHCP server:

- Option tag 186—IP address of your Cisco VXC Manager server (for example, 192.168.1.10). The value should be in 4-byte IP address format.
- Option tag 190—Secure port number to which Cisco VXC Manager server listens (for example, port 443). The value should be in word format (value = 0x01bb) or 2-byte array format (value = 0x01 0xbb).
- Option tag 192—Non-secure port number to which Cisco VXC Manager server listens (for example, 80). The value should be in either word format (value = 0x0050), or 2-byte array format (value = 0x00 0x50).



Tip

Do not run the Cisco VXC Manager server and the DHCP server on the same machine.

To configure the Cisco VXC Manager server IP address and port option values on a Windows DHCP server:

Procedure

- Step 1** Open the DHCP management wizard, choose the DHCP server to be configured, right-click the server name, and choose Set Predefined Options to open the Select Predefined Options and Values window.

Figure 2-1 DHCP Window

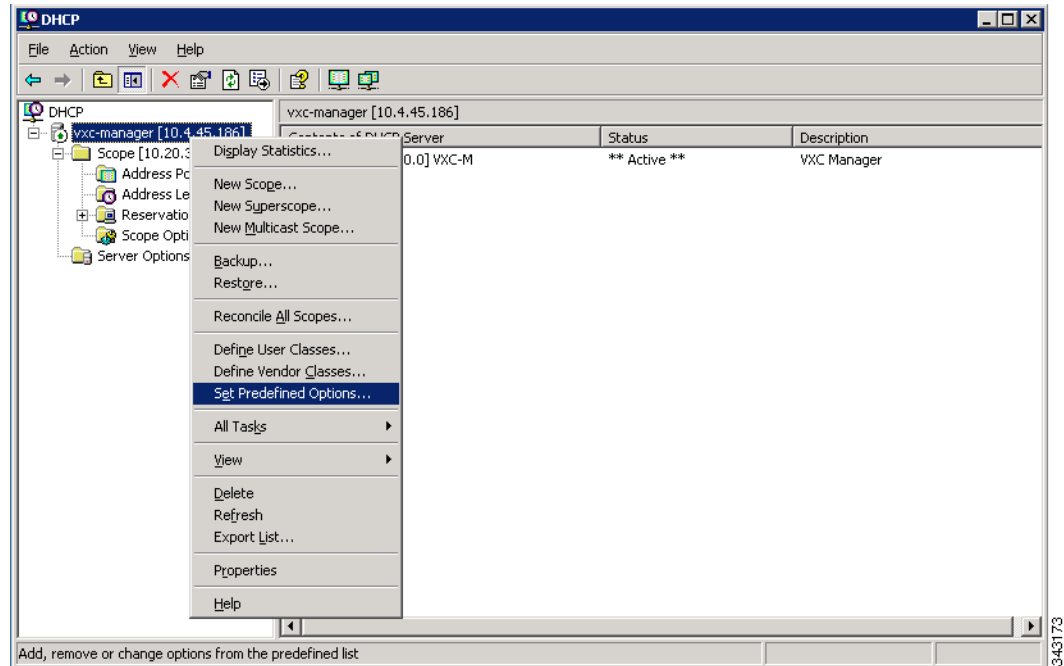
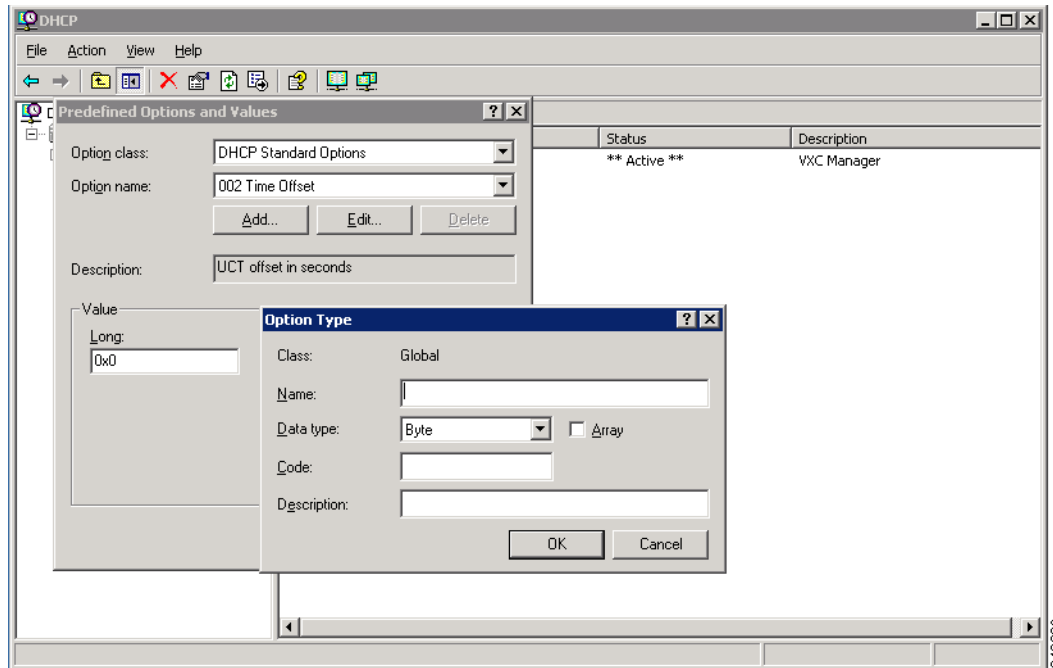


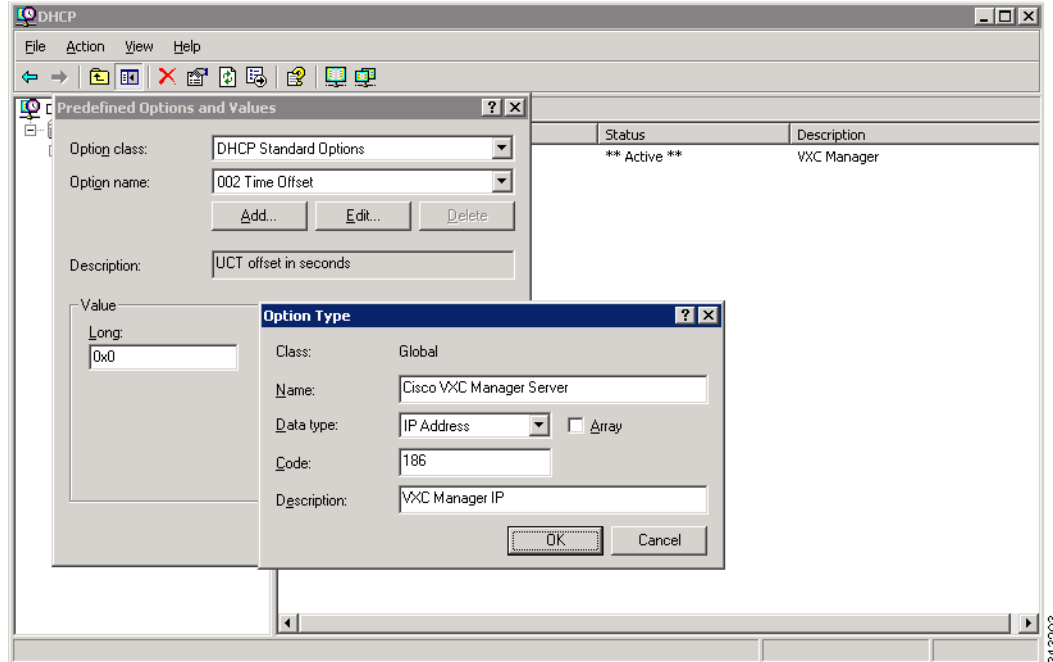
Figure 2-2 Select Predefined Options and Values



Step 2 On the Predefined Options and Values screen, click the **Add** button. The Option Type window appears.

Step 3 In the Option Type window, enter the required information:

- Name—Cisco VXC Manager Server
- Code—186
- Data Type—IP Address
- Description (optional)—Enter desired information, or nothing

Figure 2-3 Option Type: Server IP

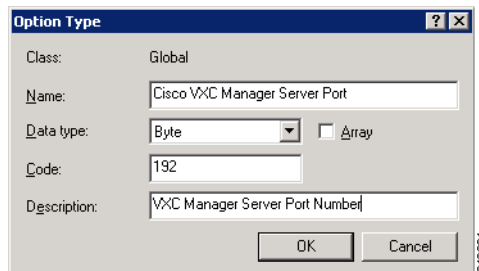
Step 4 Click **OK**.

Step 5 Repeat Steps 2 and 3 for the Cisco VXC Manager Server port, with these changes:

- Name—Cisco VXC Manager Server Secure Port
- Code—190
- Data Type—Word

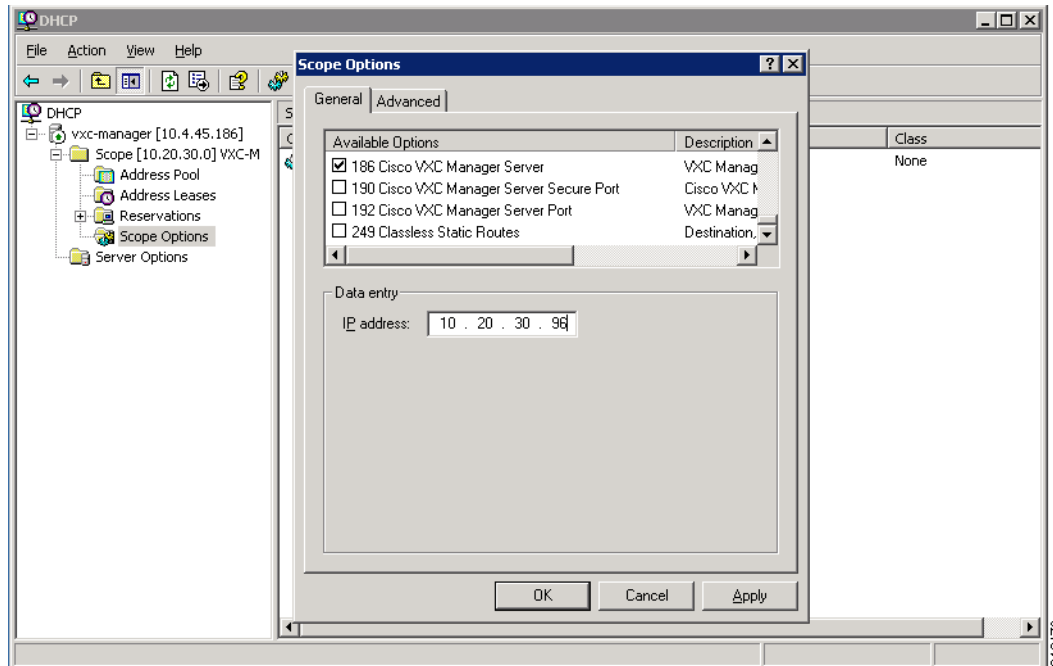
Step 6 Repeat Steps 2 and 3 for the Cisco VXC Manager Server port, with these changes:

- Name—Cisco VXC Manager Server Port
- Code—192
- Data Type—Byte or Word

Figure 2-4 Option Type: Cisco VXC Manager Server Port

Step 7 Click **OK**.

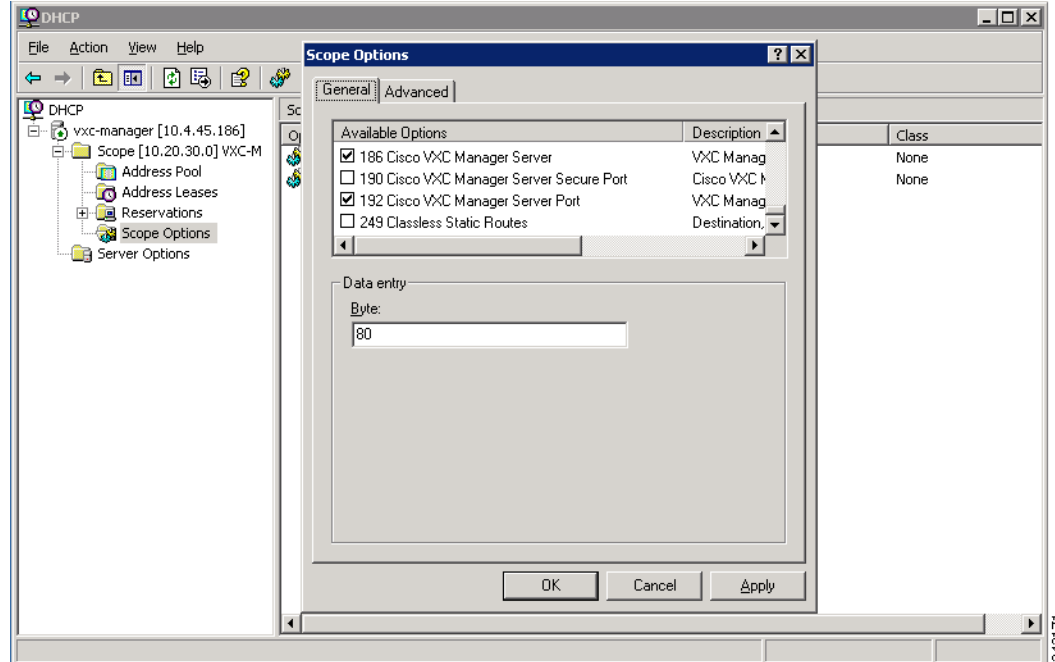
Figure 2-5 DHCP Scope Options: Cisco VXC Manager Server



Step 8 From the DHCP management wizard, choose **Scope Options** (from the target DHCP Server Scope, as shown in Figure 2-5), right-click, and choose **Configure Options**.

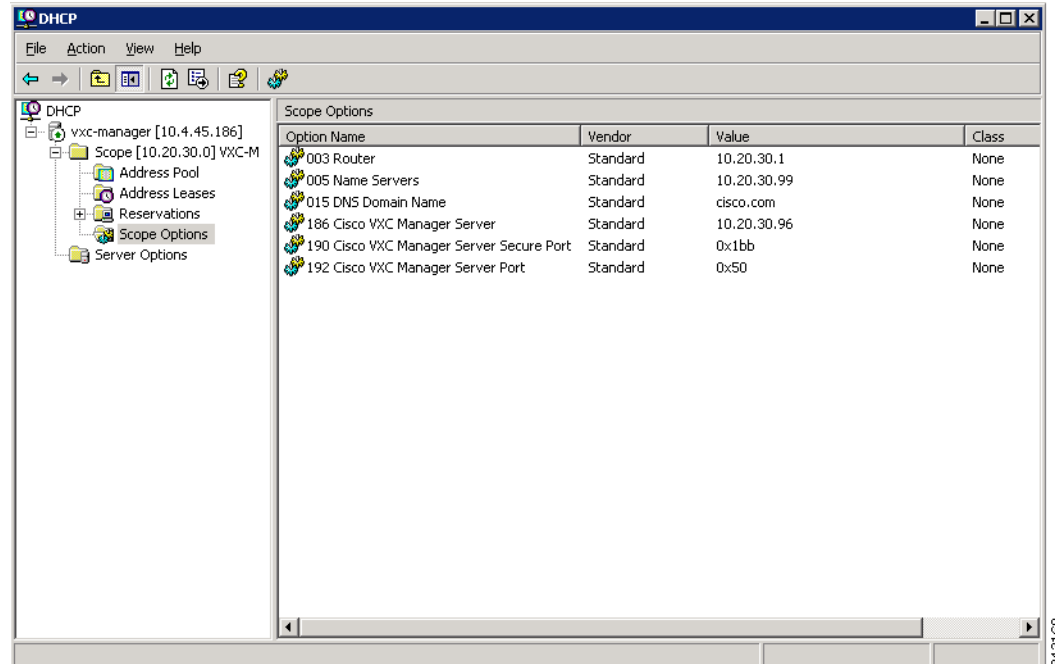
- In the list of Available Options, check option number 186, and enter the IP address of the Cisco VXC Manager server.
- In the list of Available Options, check option number 190, and enter the port number at which your Cisco VXC Manager server listens for secure communication.
- In the list of Available Options, check option number 192, and enter the port number at which your Cisco VXC Manager server listens (Port 80 is shown in Figure 2-6).

Figure 2-6 DHCP Scope Options: Cisco VXC Manager Server Port



Step 9 Click **OK**.

Figure 2-7 DHCP Scope Options List



Step 10 Confirm that options 186, 190 and 192 are listed with proper values under the target DHCP server and scope.

Create a wlx.ini File for Client Configuration

Cisco VXC 6215 Initialization (INI) files are plain-text files that you construct to specify the configuration parameters you want to apply to your thin clients. The most commonly used INI file, wlx.ini, contains the global parameters you want to apply to all thin clients in your environment. (Cisco VXC Manager also allows you to specify a subset of thin clients to which a particular wlx.ini configuration applies.)

The Cisco VXC 6215 supports a number of INI configuration parameters. See [INI File Examples, page 2-8](#) for some useful examples, including configurations required to create XenDesktop, VMware View, and RDP connections. For a complete list of supported INI parameters, see *Cisco Virtualization Experience Client 6215 INI Files Reference Guide*.



Caution

By default, an administrator username and password admin/admin is specified on the thin client. Cisco VXC 6215 does not support operation of the client using the administrator username and password in the current release (the only supported mode of operation is using the thinuser credentials). However, Cisco recommends that you change the administrator password using the ChangeAdminPassword INI parameter to prevent unauthorized access to the client.

To create the wlx.ini file, perform the following procedure.

Procedure

-
- Step 1** Open a text file.
 - Step 2** Enter the INI parameters required in accordance with [INI File Examples, page 2-8](#) or *Cisco Virtualization Experience Client 6215 INI Files Reference Guide*.
 - Step 3** Save the file as wlx.ini.
 - Step 4** After you create the wlx.ini file, you must create a Cisco VXC Manager package to push the wlx.ini configuration to your clients. See [Create a Cisco VXC Manager Package for the wlx.ini File, page 2-10](#).
-

INI File Examples

Firefox Browser Configuration Example

The following is a simple INI file that you can use to test the Cisco VXC Manager client update process. After the package process is successful using this file, the client will load the INI file, and launch the Firefox browser with cisco.com as the home page.

Example:

```
CONNECT=BROWSER \
Description="Cisco Home Page" \
URL=http://www.cisco.com \
Resolution=FullScreen \
Mode=Normal \
autoconnect=yes \
LocalCopy=yes
```

XenDesktop INI Configuration Example

To create XenDesktop server connections, use the Mozilla Firefox Connect options to specify the URL of the XenDesktop server to which users must connect. When the server URL is specified in the INI configuration, Firefox opens to this URL and the user can enter their credentials to initiate the connection to the HVD.

Example:

```
CONNECT=BROWSER \  
Description="Windows Desktop" \  
URL=http://xd.company.com \  
Reconnect=yes \  
ReconnectSeconds=5 \  
AutoConnect=yes \  
mode=kiosk
```

**Caution**

In the above example, replace xd.company.com with the URL of your XenDesktop server.

With the optional Autoconnect=yes parameter specified in the preceding example, the browser connects to the specified URL when the client boots up. In addition, the optional Reconnect=yes and ReconnectSeconds=5 parameters specify to reconnect a disconnected connection after 5 seconds. Finally, the optional mode=kiosk parameter specifies to operate in kiosk mode, in which Firefox operates in full-screen mode with no access to the address bar.

VMware View INI Configuration Example

The following is an example configuration for a VMware View connection.

Example:

```
CONNECT=VMWARE_VIEWCLIENT \  
Description="VMview" \  
Host=192.168.0.2 \  
DomainName=$DN \  
Username=Administrator \  
Password=Password \  
DesktopSize=800x600 \  
Ping=yes \  
LocalCopy=yes
```

**Caution**

In the above example, replace 192.168.0.2 with the IP address of your VMware View server.

RDP INI Configuration Example

The following is an example configuration for an RDP connection.

Example:

```
CONNECT=RDP \  
Host=x.x.x.x \  
Description="RDP_Server" \  

```

```

AutoConnect=yes \
Colors=16m \
Username=Administrator \
Password=Password \
Domainname=$DN \
Resolution=800x600 \
Reconnect=no \
Drives=J=disk \
Drives=k=floppy \
Sound=off \
LocalCopy=Yes

```

**Caution**

In the above example, replace x.x.x.x with the IP address of your RDP server.

Create a Cisco VXC Manager Package for the wlx.ini File

To push a wlx.ini file to your clients, you must first create a Cisco VXC Manager package, which you can then schedule for distribution to your devices.

**Caution**

Do not modify INI files directly on the Cisco VXC 6215 as doing so can cause configuration issues and operational errors. Only use Cisco VXC Manager to push the INI files to the clients.

Required Folder Structure with Cisco VXC Manager

With Cisco VXC Manager, you must create and register specific packages to push upgrades and configurations to your clients.

Cisco VXC Manager packages are structured relative to the location of an RSP file. To register the package with Cisco VXC Manager, the package must contain a unique RSP file and, at the same folder level, a folder with the same name as the RSP filename. This folder serves as the root folder for the remaining configuration files in the package.

For example, assuming <packagename>.rsp is the RSP file, the folder structure required to register the package is as follows:

```

~/<packagename>.rsp
~/<packagename>/wlx
~/<packagename>/wlx/bitmap
~/<packagename>/wlx/certs
~/<packagename>/addons

```

You can create this structure in any location on your Cisco VXC Manager server, as long as the placement of the folders relative to the RSP file remains the same.

**Note**

If a folder does not contain a required file for the package, the folder can be omitted from the package directory structure. For example, if the package contains no graphics, the /wlx/bitmap folder is not required.

After you register the package, Cisco VXC Manager stores the package files in the software repository under c:\inetpub\ftproot\Rapport\<packagename>.

**Caution**

Do not attempt to modify a registered package located in the Rapport folder. To modify a package, you must create and register a new package that includes the required changes.

Use the following procedure to create a Cisco VXC Manager package containing the wlx.ini file for Cisco VXC 6215 client configuration (see [Create a wlx.ini File for Client Configuration, page 2-8](#) for information on creating the wlx.ini file).

Procedure

- Step 1** Create a folder to contain the client configurations, for example 6215Configs.
- Step 2** In the 6215Configs folder, create an RSP file, for example SLE1.rsp, with the following content (to create the RSP file, enter the required content in a text editor, and then save the file with a .rsp extension):

```
[Version]
Number=SLE1
OS=SLX
Category=Other Packages
USE_Pxe=NO
[Script]
RP "<regroot>"
EX "/usr/bin/perl /sbin/dhcp2registry"
EX "/usr/sbin/thinclient-config --set-update-mode both"
EX "/usr/sbin/thinclient-config --set-force-image-update no"
EX "sync"
EX "sleep 2"
RB
RB
```

**Note**

This RSP script is provided as an example; you may need to reconfigure the parameters depending on your environment. See the *Administration Guide for Cisco Virtualization Experience Client Manager* for details about configuring RSP files.

where the "Number=" segment must have the exact same value as the RSP file name.

- Step 3** Also in the 6215Configs folder, create a subfolder using the same name as the RSP file name, for example SLE1.
- Step 4** In the SLE1 folder, create a subfolder named wlx.
- Step 5** In the wlx folder, copy the wlx.ini that contains the required configuration. For example:
- Location and name of the .rsp file:
C:\VXC-M\6215Configs\SLE1.rsp
 - Location and name of the wlx directory:
C:\VXC-M\6215Configs\SLE1\wlx
 - Location and name of wlx.ini file in the wlx directory:
C:\VXC-M\6215Configs\SLE1\wlx\wlx.ini
- Step 6** In the tree pane of the Administrator Console, expand **Package Manager**.
- Step 7** In the details pane, right-click **Other Packages** and choose **New > Package**.
- Step 8** Choose **Register a Package from a Script file (.RSP)** and click **Next**.

- Step 9** Click **Browse** to choose the file path of the .rsp package file you want to register (For example: C:\VXC-M\6215Configs\SLE1.rsp) and click **Open**.
- Step 10** Click **Next** to display the Package Wizard summary.
- Step 11** Click **Next** to see the Package Registration Progress screen.
- Step 12** Click **Next** to create the package.
- Step 13** After the package is created and registered, click **Finish**.
- Step 14** To upgrade the Cisco VXC 6215, you can use the Default Device Configuration (DDC) method (see [Schedule Device Updates Using Default Device Configuration, page 2-12](#)) or the Drag-and-Drop method (see [Schedule Device Updates Using the Drag-and-Drop Method, page 2-14](#)).
-

Schedule Device Updates Using Default Device Configuration

To update a group of Cisco VXC 6215 devices, you can assign a Default Device Configuration (DDC). A DDC allows you to set default configurations for a group of devices and ensures that the devices conform to your configurations. That is, if there is any deviation from your default configurations, Cisco VXC Manager reverts the devices to your specified configurations automatically (Cisco VXC Manager automatically sends the Cisco VXC Manager packages in the DDC to the devices according to your schedule and without your intervention).

See the following sections to configure a DDC:

- [Configuring Default Device Configuration Preferences, page 2-12](#)
- [Procedure for First-Time Default Device Configuration, page 2-13](#)
- [Procedure for Existing Default Device Configuration, page 2-13](#)

Configuring Default Device Configuration Preferences

Before you create a Default Device Configuration, ensure to configure the DDC preferences as follows:

Procedure

- Step 1** In the tree pane of the Administrator Console, choose **Configuration Manager > Preferences**.
- Step 2** In the details pane, double-click **Device Manager Preferences**.
- Step 3** In the tree pane of the Preferences dialog box, click **DDC**.
- Step 4** Under Default Device Configuration, check the **Enable Default Device Configuration** box.
- Step 5** Under Time to Schedule DDC Reconciliation, click **Upon Checkin**.
- Step 6** In the tree pane of the Preferences dialog box, click **Scheduling**.
- Step 7** Under Imaging Option, click **Merlin**.
- Step 8** Click **OK**.
-

Procedure for First-Time Default Device Configuration

Perform this procedure each time you create a new image package that you want to specify as the default image for client upgrades.

Procedure

- Step 1** Determine whether a Default Device Configuration already exists:
- In the tree pane of the Administrator Console, expand **Configuration Manager** and click **Default Device Configuration**.
 - If a default configuration appears in the details pane, go to [Procedure for Existing Default Device Configuration, page 2-13](#). Otherwise, go to the next step.
- Step 2** In the tree pane of the Administrator Console, expand **Configuration Manager**, right-click **Default Device Configuration**, and choose **New > Default Device Configuration** to open the Default Device Configuration Wizard.
- Step 3** In the Operating System field, choose **SUSE Linux**.
- Step 4** In the Media Size field, choose **4000 MB**.
- Step 5** In the Qualifying OS Image field, choose **No Image**.
- Step 6** In the Software Packages tab, check the required package for the upgrade to and click **Add** to add it to the Selected column. (The packages listed in this tab match the packages that you have registered in the Cisco VXC Manager.)
- Step 7** Click **Next** and choose **Whenever a device checks in**.
- Step 8** Click **Next** and click **Finish**.
- Step 9** Right-click the Cisco VXC 6215 you want to upgrade, and choose **Reboot**.
When the selected devices reboot, they upgrade to any new OS image version available from Cisco VXC Manager.
- Step 10** In the tree pane of the Administrator Console, click **Device Manager**.
- Step 11** Click the top **Refresh** icon to see the changed software revision.
-

To verify that Cisco VXC Manager has successfully pushed a package to a device, click **Device Manager**, and choose a target device. In the bottom right hand corner, of the details pane, click the plus icon (+) to maximise the properties for the device, then click the **Deployed Package** tab to show all packages that are on the device. You can also click the **Log History** tab to view the status of the most recent package pushed to the device.

Procedure for Existing Default Device Configuration

Perform this procedure when you want to specify an existing image package as the default image for client upgrades.

Procedure

- Step 1** In the tree pane of the Administrator Console, expand **Configuration Manager**, and click **Default Device Configuration**.
- Step 2** Right click **SUSE Linux**, and choose **Properties**.
- Step 3** In the Software Packages field, choose the package to upgrade to.
- Step 4** Click **Finish**.

After a DDC has been configured for Cisco VXC 6215 clients, the clients are updated to the selected package configuration automatically: either at their regularly scheduled checkin time or according to the update time set in the Device Manager DDC preferences in Configuration Manager. You can also right-click the Cisco VXC 6215 you want to upgrade, and choose **Reboot** to perform a manual upgrade.

Schedule Device Updates Using the Drag-and-Drop Method

As an alternative to Default Device Configuration, you can use the drag-and-drop method to schedule a registered Cisco VXC Manager package to be distributed as an update to your clients.

Procedure

- Step 1** In the tree pane of the Administrator Console, expand **Package Manager** and click the folder that contains the package you have registered so that it appears in the details pane.
- Step 2** Expand **Device Manager** to display the folder (or View) containing the devices that you want to update.
- Step 3** Click and drag the package from the details pane and drop it onto the folder containing the target devices.
- Step 4** In the Package Distribution Wizard that appears, choose the devices you want to receive the Cisco VXC Manager package and click the arrow to move them to the Selected Devices list (use **Ctrl-click** or **Shift-click** to choose multiple devices), and then click **Next**.
- Step 5** Depending on whether or not any of the devices you selected are serviced by a Remote Repository (for example, the Cisco VXC Manager package with the update is contained in a Remote Repository), complete one of the following:
- If no, the wizard prompts you to choose when the update should occur. Choose the time and date for the update, click **Next**, and then continue with Step 6.
 - If yes, and you have set up your preferences to synchronize Remote Repositories, the wizard prompts you for the synchronization information. Enter the information, click **Next**, and then continue with step 6.
- Step 6** When prompted to create the updates click **Next**.
- Step 7** After the wizard notifies you that the updates have been created, click **Finish**.

To push the updated package to the clients, right-click the Cisco VXC 6215 devices you want to upgrade, and choose **Reboot**.

To verify that Cisco VXC Manager has successfully pushed a package to a device, click **Device Manager**, and choose a target device. In the bottom right hand corner, of the details pane, click the plus icon (+) to maximise the properties for the device, and then click the **Deployed Package** tab to show all packages that are on the device. You can also click the **Log History** tab to view the status of the most recent package pushed to the device.

Optional Voice and Video Firmware Add-On

To support Unified Communications on the Cisco VXC 6215, you must purchase and install the Voice and Video Firmware add-on. The optional Voice and Video Firmware add-on provides Unified Communications functionality for Cisco UC Integration for Microsoft Lync and Cisco Unified Personal Communicator.

With the Voice and Video Firmware add-on, users in a virtual environment can use Cisco UC Integration for Microsoft Lync or Cisco Unified Personal Communicator from their thin clients. The Voice and Video Firmware runs on the thin client, and Cisco UC Integration for Microsoft Lync or Cisco Unified Personal Communicator runs on the Windows hosted virtual desktop.

For detailed deployment information about the optional Voice and Video Firmware add-on, see the *Deployment Guide for Voice and Video Firmware for Cisco Virtualization Experience Client 6215*.

To enable the Voice and Video Firmware add-on on the Cisco VXC 6215, see [Register a Package to Enable a Cisco Add-On, page 2-15](#).

Register a Package to Enable a Cisco Add-On

Use the following procedure to enable a Cisco add-on.

Procedure

- Step 1** Download the add-on files from the Cisco Software Download page:
- Go to the following URL:
<http://www.cisco.com/cisco/software/navigator.html>
 - Choose **Products > Voice and Unified Communications > IP Telephony > Virtualized Endpoints**.
 - Choose **Cisco Virtualization Experience Client 6000 Series > Cisco Virtualization Experience Client 6215**.
 - Choose the desired add-on from the list.
 - Click the **Download** or **Add to cart** button and follow the prompts.
- Step 2** On the server on which you have Cisco VXC Manager installed, extract the add-on files to a local folder.



Note

Assuming an add-on named ciscoaddontest1, the extracted add-on folder structure appears as follows:

```
~/ciscoaddontest1/wlx/wlx.ini  
~/ciscoaddontest1/ADDONS/<rpmfilename>.rpm  
~/ciscoaddontest1/ADDONS/directory  
~/ciscoaddontest1.rsp
```

Step 3 In the extracted wlx.ini file, do not modify the existing parameters, but add any additional INI configurations you require.

**Note**

If you have existing INI configurations on your clients, you must copy and paste these parameters into the wlx.ini that you push with the add-on; otherwise, the clients will lose the pre-existing configurations.

Step 4 In the tree pane of the Administrator Console, right-click **Package Manager** and choose **New > Package** to open the Package wizard.

Step 5 Click the **Register a Package from a Script File (.RSP)** option and click **Next**.

Step 6 Enter the file path to the Cisco VXC Manager script file (RSP) file contained in the extracted add-on files (you can use Browse to find and choose a file), and then click **Next** to open the Software Package Information dialog box.

The wizard obtains and displays the name, description, and category of the Cisco VXC Manager package.

Step 7 To have the Cisco VXC Manager active for distribution, check the **Active** check box.

Step 8 Click **Next**.

The wizard notifies you that it is ready to create and register the new Cisco VXC Manager package.

Step 9 Click **Next** to create and register the Cisco VXC Manager package.

Step 10 After the Cisco VXC Manager package is created and registered, click **Finish**.

The Cisco VXC Manager package is copied to the Master Repository and is displayed under the appropriate category. The Cisco VXC Manager package is now ready for distribution (see [Schedule Device Updates Using Default Device Configuration, page 2-12](#) or [Schedule Device Updates Using the Drag-and-Drop Method, page 2-14](#)).

Update the Cisco VXC 6215 Base VDI Firmware

To update the Base VDI Firmware image on a Cisco VXC 6215 client, perform the following procedure.

**Note**

If the Cisco VXC 6215 is running the Voice and Video Firmware Add-on, after you upgrade the Base VDI firmware, you must install the compatible release of the Voice and Video Firmware Add-on. See [Register a Package to Enable a Cisco Add-On, page 2-15](#).

Procedure

Step 1 Download the OS image from the Cisco Software Download page:

- a. Go to the following URL:
<http://www.cisco.com/cisco/software/navigator.html>
- b. Choose **Products > Voice and Unified Communications > IP Telephony > Virtualized Endpoints**.
- c. Choose **Cisco Virtualization Experience Client 6000 Series > Cisco Virtualization Experience Client 6215**.
- d. Choose the desired release version from the list.

e. Click the **Download** or **Add to cart** button and follow the prompts.

- Step 2** On the server where you have Cisco VXC Manager installed, extract the zipped OS image files to a local folder.
- Step 3** In the extracted wlx.ini file, do not modify the existing parameters, but add any additional INI configurations you require.



Note If you have existing INI configurations on your clients, you must copy and paste these parameters into the wlx.ini that you push with the add-on; otherwise, the clients will lose the pre-existing configurations.

- Step 4** Register the image package:
- In the tree pane of the Administrator Console, expand **Package Manager**.
 - In the details pane, right-click **Other Packages** and choose **New > Package**.
 - Choose **Register a Package from a Script file (.RSP)** and click **Next**.
 - Click **Browse** and choose the RSP file that is contained in the unzipped image files, and click **Open**.
 - Click **Next** to display the Package Wizard summary.
 - Click **Next** to see the Package Registration Progress screen.
 - Click **Next** to create the package.
 - After the package is created and registered, click **Finish**.
- Step 5** Configure the DDC preferences ([Configuring Default Device Configuration Preferences, page 2-12](#)).
- Step 6** To upgrade the Cisco VXC 6215, you can use Default Device Configuration or use the Drag-and-Drop method (see [Schedule Device Updates Using Default Device Configuration, page 2-12](#) and [Schedule Device Updates Using the Drag-and-Drop Method, page 2-14](#))



Note If you downgrade a Cisco VXC 6215 thin client from a newer Image DDC (for example, DDC_10) to any older Image DDC (for example, DDC_09), and then try to re-apply the newer image DDC to the client, the operation fails. To successfully re-apply the newer image DDC (DDC_10) to the thin client after a downgrade, you must first rename the newer image DDC using Cisco VXC Manager (for example, to DDC_10a).

Configure Multimedia Redirection with a Proxy Server

When you enable Multimedia redirection to allow the thin client to fetch audio and video media directly, if you have an internal proxy server running on your network, you must configure the thin client with the address of your proxy server to allow the thin client to access the external media.

To configure the proxy server, you must push an RSP file to the clients using Cisco VXC Manager in accordance with the following procedure. Note that you must also specify the internal domain for which no redirection is required.

Procedure

-
- Step 1** Create a folder to contain the client configurations, for example 6215Configs.

Step 2 In the 6215Configs folder, create an RSP file, for example ProxyConfig.rsp, with the following content (to create the RSP file, enter the required content in a text editor, and then save the file with a .rsp extension):

```
[Version]
Number= ProxyConfig
OS=SLX
Category=Other Packages
USE_Pxe=NO
[Script]
RP "<regroot>"
EX "echo 'export http_proxy=http://<proxy-server.com:443>' >> /etc/bash.bashrc.local"
EX "echo 'export HTTP_PROXY=http://<proxy-server.com:443>' >> /etc/bash.bashrc.local"
EX "echo 'export https_proxy=http://<proxy-server.com:443>' >> /etc/bash.bashrc.local"
EX "echo 'export HTTPS_PROXY=http://<proxy-server.com:443>' >> /etc/bash.bashrc.local"
EX "echo 'export ftp_proxy=http://<proxy-server.com:443>' >> /etc/bash.bashrc.local"
EX "echo 'export FTP_PROXY=http://<proxy-server.com:443>' >> /etc/bash.bashrc.local"
EX "echo 'export all_proxy=http://<proxy-server.com:443>' >> /etc/bash.bashrc.local"
EX "echo 'export all_proxy=http://<proxy-server.com:443>' >> /etc/bash.bashrc.local"
EX "echo 'export no_proxy=<.local-domain.com>' >> /etc/bash.bashrc.local"
EX "echo 'export NO_PROXY=<.local-domain.com>' >> /etc/bash.bashrc.local"
RB
RB
```

Where:

- You must replace <proxy-server.com:443> with the address and port of the proxy server for the specified protocols.
- You must replace <.local-domain.com> with your local domain name to be added to the proxy bypass list. For example:

```
EX "echo 'export no_proxy=.cisco.com' >> /etc/bash.bashrc.local"
```

- You must ensure the **Number=** segment has the exact same value as the RSP file name.

Step 3 Also in the 6215Configs folder, create a subfolder using the same name as the RSP file name, for example ProxyConfig.

Step 4 In the ProxyConfig folder, create a subfolder named wlx.

Step 5 In the wlx folder, copy the wlx.ini file containing your existing INI configuration that you want retained after the configuration update.

For example:

- Location and name of the .rsp file:
C:\VXC-M\6215Configs\ ProxyConfig.rsp
- Location and name of the wlx directory:
C:\VXC-M\6215Configs\ ProxyConfig\wlx
- Location and name of wlx.ini file in the wlx directory:
C:\VXC-M\6215Configs\ ProxyConfig\wlx\wlx.ini

Step 6 In the tree pane of the Administrator Console, expand **Package Manager**.

Step 7 In the details pane, right-click **Other Packages** and choose **New > Package**.

Step 8 Choose **Register a Package from a Script file (.RSP)** and click **Next**.

Step 9 Click **Browse** to choose the file path of the .rsp package file you want to register (For example: C:\VXC-M\6215Configs\ ProxyConfig.rsp) and click **Open**.

Step 10 Click **Next** to display the Package Wizard summary.

- Step 11** Click **Next** to see the Package Registration Progress screen.
- Step 12** Click **Next** to create the package.
- Step 13** After the package is created and registered, click **Finish**.
- Step 14** To upgrade the Cisco VXC 6215, you can use Default Device Configuration or use the Drag-and-Drop method (see [Schedule Device Updates Using Default Device Configuration, page 2-12](#) and [Schedule Device Updates Using the Drag-and-Drop Method, page 2-14](#)).
-

Additional INI file examples

Enable VNC using an INI file

Example:

```
DisableVnc=no  
VNCAuthTypes=none  
VNCPrompt=no
```

Time settings

Example:

```
Timeserver=yourntpserver.com  
Timeformat="24-hour format"  
TimeZone="US/Eastern" ManualOverride=1
```

Display and Keyboard settings

Example:

```
DisplaySettings=MON1 rotate-normal 1440x900  
DesktopTaskBar=left  
AutoHide=yes  
Keyboard.layouts=us
```




CHAPTER 3

Desktop Basics

This chapter provides information to help you quickly get started using your thin client. It describes basic thin client functions and provides instructions for setting up the thin client for you and your users.

It includes:

- [Logging In, page 3-1](#)
- [Using Your Desktop, page 3-2](#)
- [Connecting to a Monitor, page 3-3](#)
- [Shutting Down, Restarting, and Suspending, page 3-4](#)
- [Viewing System Information, page 3-4](#)



Tip

Cisco thin clients are designed to be centrally managed and configured using Cisco VXC Manager and INI files. You can use Cisco VXC Manager to automatically push updates and any desired default configuration to all supported thin clients in your environment. For more information, see [Central Configuration Using Cisco VXC Manager, page 1-1](#).

Logging In

The options and menus that are available on the thin client depend on access levels and on the add-ons that are enabled on the thin client. By default, the Autologin add-on is enabled on the thin client, which automatically logs users into the local thin client desktop after they power up the thin client.

On initial connection to central configuration, plug in the network-connected Ethernet cable to the thin client before starting the thin client to obtain the configuration settings (connections, system settings, required certificates and so on) desired by the administrator.



Note

After the thin client boots up, there is a short delay before it initiates the autologin process. The user is initially presented with the login screen, and after approximately 10 to 15 seconds, the thin client automatically logs the user into the thin client using `thinuser/thinuser` as the default username and password.

After the thin client is powered on, the users are presented with a Firefox connection icon on the desktop which they can use to log into the HVD. To connect to the HVD, double-click the icon and enter the required login credentials.

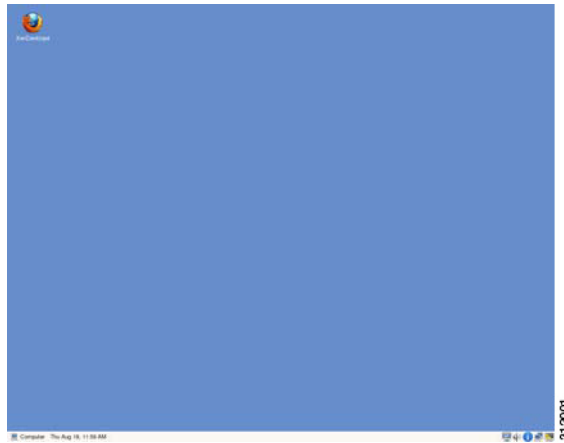
The following sections describe the available options on the thin client desktop that allow manual configuration of certain options.

Although manual configuration is possible, Cisco highly recommends that you use central configuration to automatically push updates and any desired default configuration to all supported thin clients in your environment (see *Administration Guide for Cisco Virtualization Experience Client Manager*).

Using Your Desktop

The desktop provides various applications and tools for use.

Figure 3-1 Desktop



Use the following guidelines:

- Computer button—Displays the Computer menu containing frequently used programs and common system areas.
 - Connection Manager—Opens the Connection Manager. Use the Connection Manager to view connections on the thin client.
 - More Applications—Opens the Application Browser. Use the Application Browser to use and manage applications on the thin client (see [Accessing Applications with the Application Browser, page 4-1](#)).
 - Logout—Opens the Log Out dialog box (click **Log Out** to end your session but continue to run the thin client).
 - Shutdown—Opens the Shutdown dialog box (where you can shut down your thin client, restart your thin client, or put your thin client in Standby mode. See [Shutting Down, Restarting, and Suspending, page 3-4](#)).



Note If you open the Shutdown dialog box and do not choose a shutdown option, the system automatically shuts down after 60 seconds.

- Calendar—Lists the day of the week, date, and time. You can click the calendar to open a calendar window.

Desktop Keyboard Shortcuts

Depending on the type of application window you are using (full screen, standard, or seamless), you can use shortcut keys (see [Table 3-1](#)) to manage windows.

Table 3-1 Window-Related Shortcut Keys

| Window Action | Press |
|---|---|
| Maximize window | Alt+F10 |
| Minimize window | Alt+F9 |
| Restore maximized window to previous size | Alt+F5 |
| Move focus to next window | Alt+Esc |
| Move focus to previous window | Alt+Shift+Esc |
| Switch windows using a dialog box | Alt+DownArrow |
| Switch panel focus | Alt+Ctrl+Shift+DownArrow |
| Show the window menu | Alt+Space (you can also right-click the window title bar or border, or click the window icon) |
| Minimize/maximize all windows | Alt+Ctrl+DownArrow |
| Move window with arrow keys | Alt+F7 and press an arrow key |
| Resize window | Alt+F8 and press an arrow key |
| Show desktop panel | Alt+F1 |
| Close the window | Alt+F4 |



Tip

The shortcut keys Alt+DownArrow (allows you to switch windows using a dialog box) and Alt+Ctrl+DownArrow (minimizes or maximizes all windows) are useful for navigating multiple remote sessions without having to log out.

Connecting to a Monitor

Monitor connections can be made using the DVI (digital) monitor port and the proper monitor cables/splitters. For VGA (analog) monitor connections, you must use the included DVI-to-VGA adapter. For information on configuring display settings, see [Configuring Display Settings, page 4-5](#).



Tip

If you connect a DVI monitor and a VGA monitor to the DVI port using a DVI to DVI/VGA splitter, the VGA monitor is the primary monitor.

If you connect one DVI monitor to the DVI port and a second DVI monitor to the Display Port using a Display Port to DVI adapter, the Display Port monitor is the primary monitor.

Shutting Down, Restarting, and Suspending

When you are finished using your thin client, you can click **Computer > Shutdown** and choose:

- Shutdown—Shuts down and turns off your thin client.
- Restart—Shuts down and restarts your thin client.
- Suspend—Places the thin client in Standby mode to preserve power. To exit Standby mode, click the mouse.

**Tip**

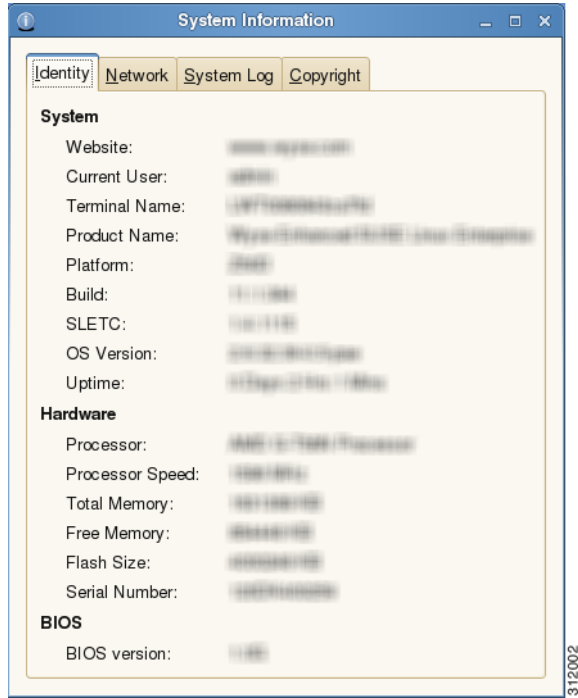
If the ReadyMode feature is enabled and you shut down the thin client, the session ends, the power button LED is put in a state of OFF, and the thin client is placed in Standby mode to preserve power. When you press the power button, the thin client exits Standby mode and immediately prompts the user with the login dialog box. For more information on ReadyMode, see *Cisco Virtualization Experience Client 6215 INI Files Reference Guide*.

Viewing System Information

Click **More Applications** in the Computer menu (see [Using Your Desktop, page 3-2](#)) to open the Application Browser. Click the **System Information** icon to open the System Information dialog box. Use this dialog box to view Identity, Network, System Log, and Copyright information:

- Identity tab—Displays identity information such as Website, Current User, Terminal Name, Product Name, Platform, Build, SLETC, OS Version, Uptime, Processor, Processor Speed, Total Memory, Free Memory, Flash Size, Serial Number, and BIOS version.
- Network tab—Displays network information such as Network Device, MAC Address, Network Speed, MTU, IP Address, IPv6 Address, Netmask, Gateway, Domain, Primary DNS, Secondary DNS, DHCP Server, Lease, and Elapsed.
- System Log tab—Displays the System Log information, including various messages generated during the operation of the thin client.
- Copyright tab—Displays the software copyright and patent notices.

Figure 3-2 System Information dialog box





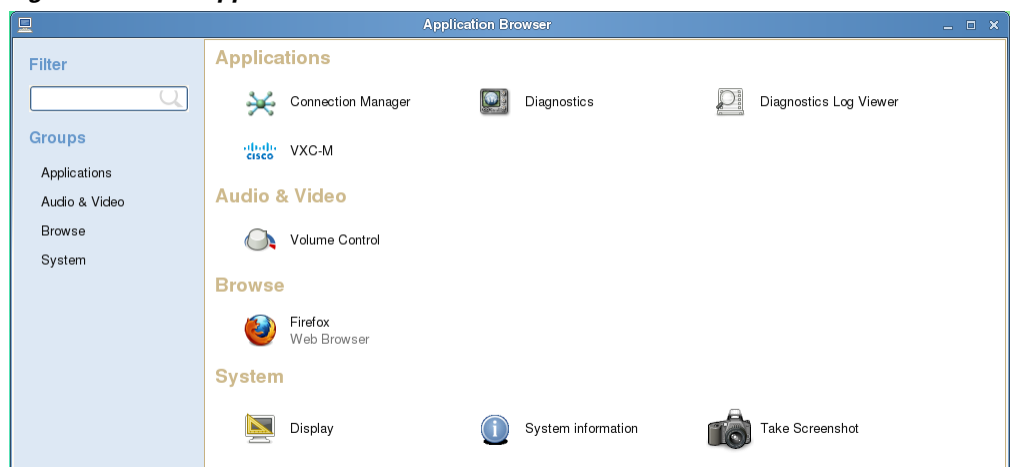
CHAPTER 4

Accessing Applications with the Application Browser

This chapter provides detailed information about using the Application Browser to access the applications, audio and video, and system features that are installed on the thin client.

Click **More Applications** in the Computer menu (see [Using Your Desktop, page 3-2](#)) to open the Application Browser.

Figure 4-1 Application Browser



This chapter includes information on:

- [Viewing the Connection Manager, page 4-2](#)
- [Performing Diagnostics, page 4-2](#)
- [Viewing Diagnostic Logs, page 4-3](#)
- [Configuring the Cisco VXC Manager Agent, page 4-4](#)
- [Configuring Volume Control Settings, page 4-5](#)
- [Opening a Firefox Web Browser Session, page 4-5](#)
- [Configuring Display Settings, page 4-5](#)
- [Viewing System Information, page 4-6](#)
- [Taking Screenshots, page 4-6](#)

Viewing the Connection Manager

Click the **Connection Manager** icon in the Application Browser to open the Connection Manager. Use the Connection Manager to view connections on your Desktop.

Performing Diagnostics

Click **Diagnostics** in the Application Browser to open the Diagnostics dialog box. Use this dialog box to choose and use one of the following diagnostic tools:

- Ping—Enter or choose a destination from the Destination list and click **Ping**.
- Trace Route—Enter or choose a destination from the Destination list and click **Trace Route** (diagnostic information appears on the Trace Route tab).
- Temporary Settings—View the temporary settings of the thin client.
- Permanent Settings—View the permanent settings of the thin client.
- wlx.ini/wnos.ini—View the wlx.ini or wnos.ini file as copied to the thin client.



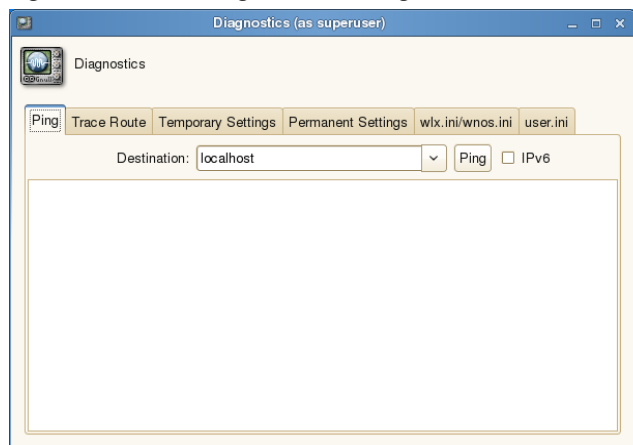
Note The Cisco VXC 6215 supports wlx.ini files, but does not support wnos.ini files. For more information, see the *Cisco Virtualization Experience Client 6215 INI Files Reference Guide*.

- user.ini—View the user.ini file as copied to the thin client.



Note The Cisco VXC 6215 does not support the user.ini file.

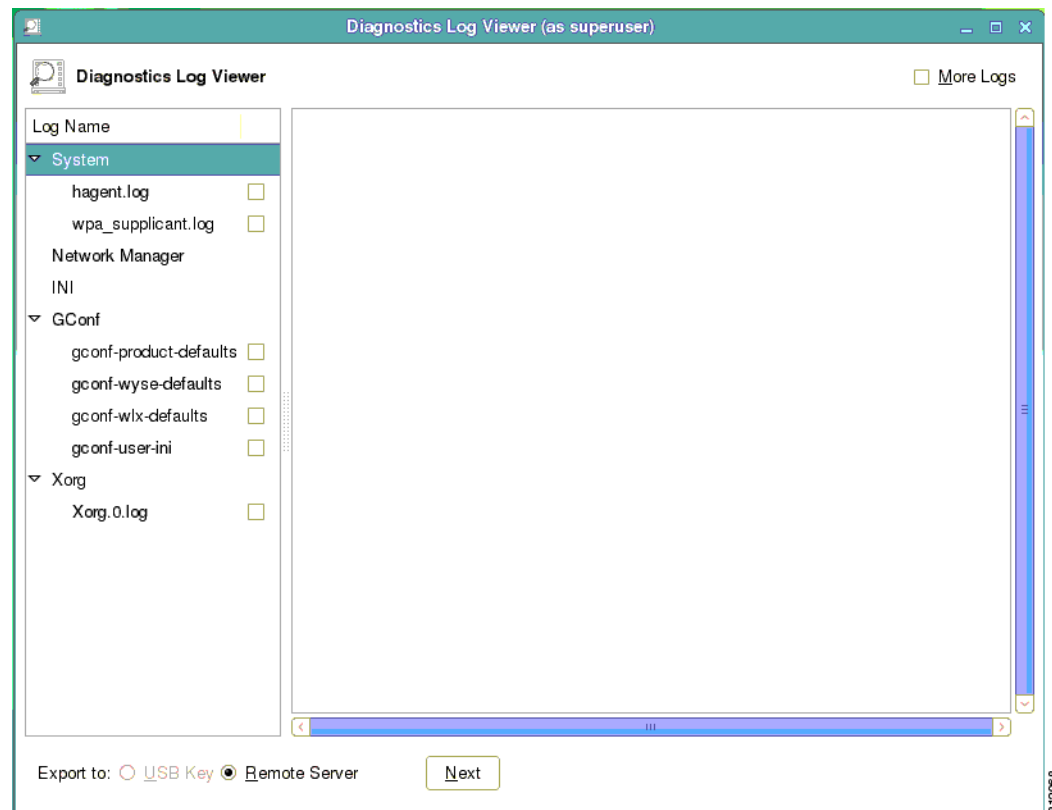
Figure 4-2 Diagnostics Dialog Box



Viewing Diagnostic Logs

Click **Diagnostics Log Viewer** in the Application Browser to open the Diagnostics Log Viewer dialog box. The Diagnostic Log Viewer allows you to display and export log files to a USB key or to a remote server.

Figure 4-3 Diagnostic Log Viewer



To highlight a log file, click the name of the log file in the Log Name list. The Diagnostic Log Viewer then displays messages related to the log file.

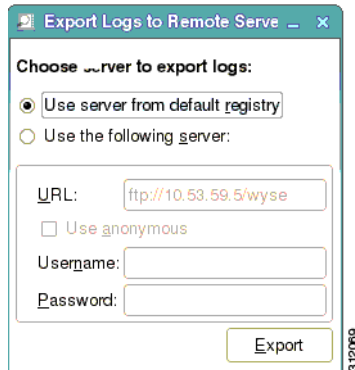
To include debug messages in the displayed list, check the **More Logs** check box, click **Apply**, and then restart the device for the changes to take effect. When you highlight the log file after the reset, the Diagnostic Log Viewer displays the debug messages.

You can export log files to a connected USB Key or to a Remote Server, as follows:

- **USB Key:** Attach a USB key to the client, open the Diagnostics Log Viewer, and check the check boxes for the logs you want in the Log Name list. In the Export To field, click **USB Key**, and then click **Next** to use the Export Logs dialog box.
- **Remote Server:** Check the check boxes for the logs you want in the Log Name list. In the Export To field, click **Remote Server** and then click **Next** to use the Export Logs dialog box.

Note that you can export the files to a default server (server from the default registry) by clicking **Use server from default registry**, or to any server by clicking **Use the following server** and specifying the server path in the URL field.

Figure 4-4 Export Logs to Remote Server Dialog Box

**Note**

Permanent and temporary registry logs are exported by default.

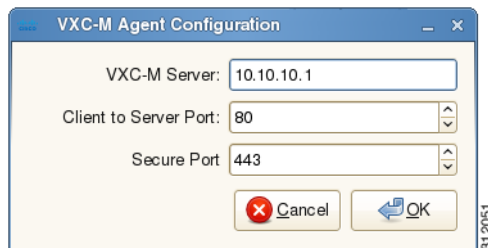
Configuring the Cisco VXC Manager Agent

Click **Cisco VXC-M** in the Application Browser to open the Cisco VXC-M Agent Configuration dialog box. Use this dialog box to configure the Cisco VXC Manager server location.

**Tip**

After you configure the Cisco VXC Manager Agent properties, Cisco recommends that you reboot the thin client.

Figure 4-5 VXC Manager Agent Configuration Dialog Box



To configure the Cisco VXC Manager server location, perform the following procedure:

Procedure

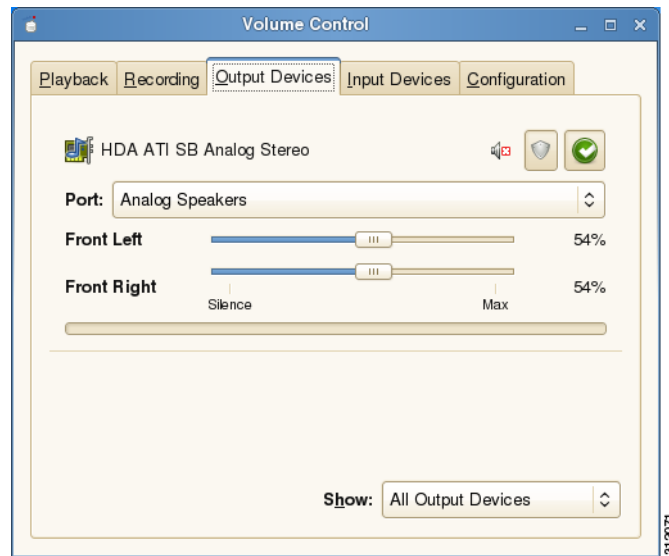
- Step 1** Enter the **VXC-M Server** IP address.
- Step 2** Enter the **Client to Server Port** (default is 80).
- Step 3** Enter the **Secure Port** (HTTPS port default is 443).
- Step 4** Click **OK**.

After you reboot the thin client, the thin client performs a checkin with the Cisco VXC Manager.

Configuring Volume Control Settings

Click **Volume Control** in the Application Browser to open the Volume Control dialog box. Use this dialog box to set volume preferences for Playback (system sounds), Recording (application recording sounds), Output Devices (left and right sounds), Input Devices (left and right sounds), and Configuration (profile). You can use the Show list on the Playback, Recording, Output Devices, and Input Devices tabs to choose which items you want shown.

Figure 4-6 Volume Control Dialog Box



Tip

For these settings to take effect, sound must be supported and enabled on the server used for ICA connections, RDP connections, or MPlayer. Sound requires significant bandwidth that may not be available on some WAN and dial-up connections.

Opening a Firefox Web Browser Session

Click the **Firefox** icon in the Application Browser to open a Firefox web browser session.

Configuring Display Settings

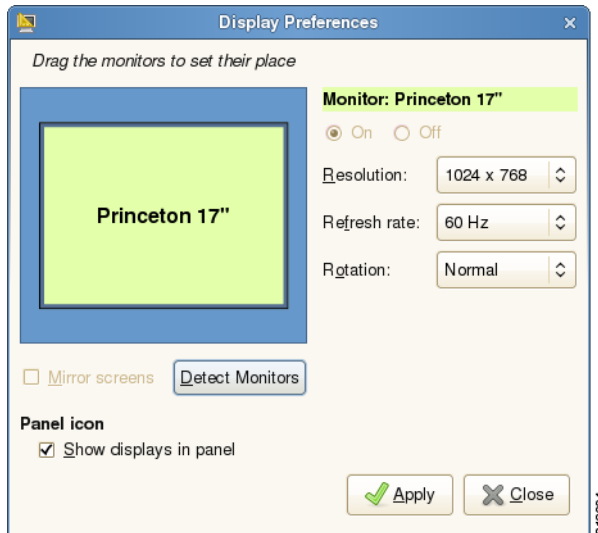
Click **Display** in the Application Browser to open the Display Preferences dialog box. Use this dialog box to set the monitor display settings (Primary Display Output, Resolution, Refresh Rate, and Rotation). For most monitors, the thin client automatically obtains the correct resolution from the monitor.



Note

With dual monitors, the screens are mirrored by default. To set up an extended desktop across two monitors, uncheck the **Mirror Screens** check box.

Figure 4-7 Display Preferences Dialog Box



Viewing System Information

Click **System Information** in the Application Browser to open the System Information dialog box. See [Viewing System Information, page 4-6](#) for details.

Taking Screenshots

Click **Take Screenshot** in the Application Browser to open the Take Screenshot dialog box. Use this dialog box to set screenshot preferences and effects (for example, entire desktop with pointer, current window with a border, or a selected area). After setting your preferences, click **Take Screenshot** to take the screenshot and open the Save Screenshot dialog box allowing you to name and save the file.

Figure 4-8 Take Screenshot Dialog Box





APPENDIX **A**

Central Configuration Using File Server

This appendix contains information about configuring thin clients using a central file server as an alternative to Cisco VXC Manager.

Cisco VXC Manager is the standard tool for central management. As an alternative method for thin client management, you can configure a local file server from which the thin clients can obtain INI files for their configuration.



Caution

Central configuration using a file server provides fewer capabilities for hands-on client management, and is therefore recommended only in test environments or for troubleshooting. Cisco VXC Manager is the standard tool for thin client management.

For information about configuring thin clients using Cisco VXC Manager, see [Central Configuration Using Cisco VXC Manager, page 1-1](#) and the *Administration Guide for Cisco Virtualization Experience Client Manager*.

This appendix includes:

- [How INI Files Are Employed, page A-1](#)
- [How to Set Up Central Configuration Using a File Server, page A-2](#)

For detailed information on constructing and using INI files, see the *Cisco Virtualization Experience Client 6215 INI Files Reference Guide*.

How INI Files Are Employed

INI files (created and maintained by the network administrator) determine how the thin client is configured and updated. The thin client accesses INI files from the server during the initialization process. Typically, INI files are accessed through FTP, HTTP, or HTTPS; if no protocol is specified, the default is anonymous FTP.

INI files are employed as follows:

- **wlx.ini**—This is the global INI file. One wlx.ini file is available to all users. It contains global parameters for all thin clients accessing the server.
- **\$MAC.ini**—This file can be used for device-specific configuration. If the thin client locates this INI file (it is stored in the same directory as wlx.ini), wlx.ini is not accessed, unless you use the `include=wlx.ini` parameter.

When a thin client is initialized, it accesses the global wlx.ini file.

How to Set Up Central Configuration Using a File Server

For the thin client to successfully access INI files and update itself from a server, you must set up the server with the correct folder structure (where the INI files and other update files are located), direct the thin client to the server, and then reboot or start the thin client.

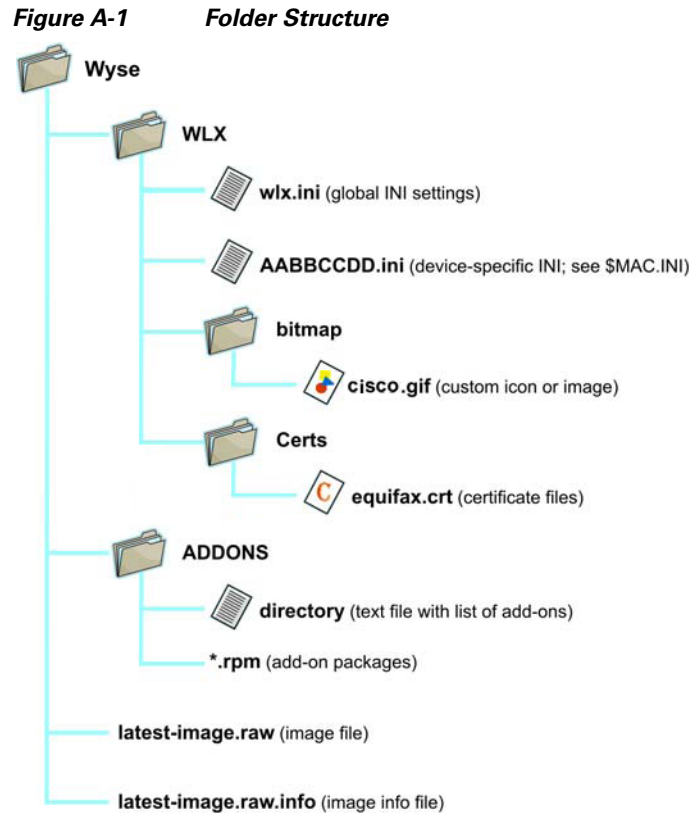
After DHCP and servers are configured and available, the thin client checks (at each bootup) to see whether or not any updates are available on a predefined server (DCHP Option 161 specifies the server URL; DCHP Option 162 specifies the root path to the server). If updates are available, the updates are automatically installed.

Step 1: Prepare the Root Directory and Folder Structure on the File Server

Set up the following folder structure on your server under the C:/inetpub/ftproot folder (for FTP) or C:/inetpub/wwwroot folder (for HTTP or HTTPS) and place your INI files and other necessary files inside the structure as noted (this list describes the folder structure, starting with the root directory).

| | |
|------------------|---|
| /wyse/ | The root directory. It stores the wlx folder and the add-ons folder. It also stores the following files, which are used for imaging and updating devices: <ul style="list-style-type: none"> • Latest-image.raw • Latest-image.raw.info |
| /wyse/wlx | The main INI configuration folder. It stores the following: <ul style="list-style-type: none"> • wlx.ini file or \$MAC.ini file • bitmap folder • certs folder |
| /wyse/wlx/bitmap | The folder where you can place custom images you plan to use. |
| /wyse/wlx/certs | The folder where you can place the CA certificates that can be imported to a thin client. <p>Note Use the Certs and ImportCerts INI parameters in the wlx.ini file to import the certificates to thin clients.</p> |
| /wyse/addons | The folder where you can place the add-ons you want to use. It also stores the directory file and the *.rpm packages available to be installed on the thin client. The directory file should list all available add-ons. The directory file is required in the add-ons folder to guarantee that add-ons are properly located. |

The following figure shows how to set up the folder structure on your file server and where to place INI files and other necessary files inside the structure.



Be sure to create/activate the required MIME Types (.ini, .raw, .info, .rpm, and .) under IIS (on a per site basis) to enable downloading. Also be sure your web server can identify the file types used by Cisco thin clients.

To create/activate a MIME Type:

-
- Step 1** On your IIS server, use the File Types menu to add a New Type.
 - Step 2** In the File Type dialog box, enter the Associated extension: (.ini, .raw, .info, .rpm, or .) and Content type.
 - Step 3** Click **OK** to apply the settings.
-

Repeat the steps above for each required MIME type, specifying the appropriate extension and content type.

Step 2: Direct the Thin Client to the Server

After you set up the folder structure and populate it with the correct files, you must then direct the thin client to the location of the server using DHCP.

Using DHCP

With the DHCP method of configuring the file server location (recommended), the thin clients obtain information about the server and root directory using the following DHCP options:

- 161—Specifies the server
- 162—Specifies the root path to the server (ftp/http/https)
 - If no root path is defined, /wyse is assumed.
 - If a root path is defined, the additional path is appended to the URL supplied by Option 161.
- 184—(Optional) Specifies the server username (for the server specified in Option 161)
- 185—(Optional) Specifies the server password (for the server specified in Option 161).


Tip

The thin clients perform the check-in for firmware updates early in the boot process. For that reason, a unit may not receive changes in DHCP information until it completes a full boot. However, you can avoid this scenario by forcing a renewing of the DHCP lease, which ensures that the unit has the latest file-server location before the next firmware check.

Use the guidelines shown in [Table A-1](#) when you create and add the DHCP options you need.

Table A-1 DHCP Option Tags

| Option | Description | Notes |
|--------|---------------------------|---|
| 001 | Client identifier | Always sent |
| 002 | Time Offset | Optional |
| 003 | Router | Optional but recommended. It is not required unless the appliance must interact with servers on a different subnet. |
| 006 | Domain Name Server (DNS) | Optional but recommended |
| 012 | Host Name/Terminal Name | Optional string. The hostname or terminal name to be set. |
| 015 | Domain Name | Optional but recommended. See Option 6. |
| 028 | Broadcast Address | Optional |
| 044 | WINS servers IP Address | Optional |
| 051 | Lease Time | Optional but recommended |
| 052 | Option Overload | Optional |
| 053 | DHCP Message Type | Recommended |
| 054 | DHCP Server IP Address | Recommended |
| 055 | Parameter Request List | Sent by appliance |
| 057 | Maximum DHCP Message Size | Optional (always sent by appliance) |
| 058 | T1 (renew) Time | Optional but recommended |
| 059 | T2 (rebind) Time | Optional but recommended |
| 061 | Client identifier | Always sent |

Table A-1 DHCP Option Tags

| Option | Description | Notes |
|--------|--|--|
| 161 | Server (ftp/http/https) | Optional string. If this is an IP address or resolvable hostname, the protocol is assumed to be FTP; however, it may be the leading portion of a URL that specifies another protocol. If the URL form is used, it should not include a trailing slash (for example, http://server.example.com or ftp://192.168.0.1). |
| 162 | Root path to the server (ftp/http/https) | Optional string. The relative directory starting from the root directory must be given. For example, on an FTP server, the full directory may be C:/Inetpub/ftproot/wyse, where wyse is the directory that contains the firmware. In this example, the correct string value for this DHCP option is /wyse. On a Linux server, an FTP user-based directory might be /home/test/wyse. In this example, if the FTP user is test, then the FTP root path is /wyse and not the full path (/home/test/wyse). This value should use URL path notation (start with a forward slash, /, and use a forward slash as folder separators). |
| 181 | PN Server | Optional string. IP address or FQDN of the PNLite server. |
| 182 | Admin List | Optional string. DHCP equivalent of the DomainList INI file parameter. |
| 184 | Server Username | Optional string. Username to use when authenticating to the server specified in Option 161. |
| 185 | Server Password | Optional string. Password to use when authenticating to the server specified in Option 161. |
| 186 | Cisco VXC Manager | Optional binary IP address of the Cisco VXC Manager server. This option can specify up to one Cisco VXC Manager server. |
| 191 | XenDesktop DDC URL | Optional string. You can connect to your XenDesktop URL by using DCP Option tag 191 to specify the XenDesktop DDC URL. |
| 194 | Cisco VXC Manager FQDN | Optional FQDN of the Cisco VXC Manager server. This option can specify up to one Cisco VXC Manager server. |

Step 3: Rebooting

To reboot your thin client, click **Computer > Shutdown** and choose **Restart**.



Note

To reboot the client, use the Restart option to ensure the client performs a full boot sequence. This step is especially important when you are upgrading client firmware or configurations; otherwise, the upgrades may not take effect.

After you reboot (or start the thin client), the thin client searches in the defined root path for the latest available image and updates if necessary. Additionally, it checks the directory file in the add-ons folder to determine whether any updates for installed add-ons are defined. Add-ons that exist in the add-ons folder but are not listed in the directory file are ignored during update check-in.



APPENDIX **B**

Using TightVNC Viewer to Shadow or Monitor a Thin Client

TightVNC Server is installed locally on the thin client. It allows administrators to shadow/operate/monitor a thin client from a remote machine on which TightVNC Viewer is installed (TightVNC Viewer is available from the TightVNC website and must be installed on the remote/shadowing machine before use; it is also included as a component of Cisco VXC Manager software).

TightVNC (Server and Viewer) allows a remote administrator to configure or reset a thin client from a remote location rather than making a personal appearance at the thin client site (VNC is intended primarily for support and troubleshooting purposes). TightVNC Server starts automatically as a service at thin client startup if the administrator has configured it using the INI file.

The administrator must configure the client using INI parameters to enable VNC access. You must use the same INI file configuration to enable VNC whether you are using Cisco VXC manager or TightVNC Viewer to access the thin client. See [INI Configuration Example for Enabling VNC, page B-2](#) for an example configuration, and see the *Cisco Virtualization Experience Client 6215 INI Files Reference Guide* for additional configuration details.

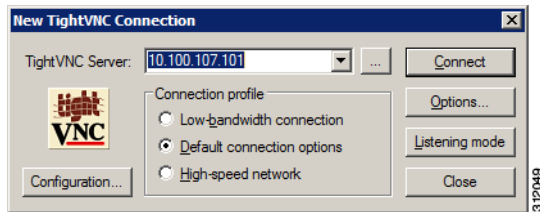
Before an administrator on a remote machine (on which TightVNC Viewer is installed) can access a thin client (with TightVNC Server) the administrator must know the following:

- The IP address (or valid DNS name) of the thin client that is to be shadowed/operated/monitored (see [Viewing System Information, page 3-4](#)).
- The security password of the thin client that is to be shadowed/operated/monitored.

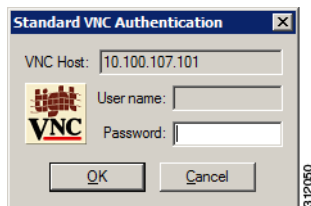
To shadow a thin client from a remote machine:

Procedure

- Step 1** Open the New Tight VNC Connection dialog box (for example, from Microsoft Windows, click **Start > All Programs > TightVNC > TightVNC Viewer**).

Figure B-1 New TightVNC Connection Dialog Box

- Step 2** Enter the IP address or valid DNS name of the thin client that is to be shadowed/operated/monitored (you can also set other options using the command buttons).
- Step 3** Click **OK** to open the VNC Authentication dialog box.

Figure B-2 Standard VNC Authentication Dialog Box

- Step 4** Enter the password of the thin client that is to be shadowed (this is the Security Password of the thin client that is to be shadowed), and click **OK**. The thin client that is to be shadowed/operated/monitored is displayed for the administrator in a separate window on the remote machine. Use the mouse and keyboard on the remote machine to operate the thin client just as you would if you were operating it locally.

INI Configuration Example for Enabling VNC

You can use the following example INI file configuration to enable VNC on the thin client:

Example:

```
DisableVnc=no
VNCAuthTypes=none
VNCPrompt=no
```

This example enables VNC connections on the client, with no password authentication required to access the client, and without prompting the user to accept VNC shadowing before the shadowing starts.

For details about using INI files, see *Cisco Virtualization Experience Client 6215 INI Files Reference Guide*.

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