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

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/sshd 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=all

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*.