CHAPTER 2

NCM and LMS Co-residency Installation

This chapter describes the CiscoWorks NCM and LMS co-residency installation procedures on a Windows server and includes the following sections:

- Co-residency Installation Summary, page 2-1
- Detailed Co-residency Installation Procedures, page 2-3

For complete information on how to use NCM, refer to the *User Guide for Network Compliance Manager, 1.2*.

Co-residency Installation Summary

The following is a summary of the steps to enable NCM and LMS co-residency.

Note When you install LMS and NCM, you can install either LMS or NCM first. Steps 3 and 4 can be interchanged.

1. Permanently disable TFTP, Secure Shell Service (SSH), Telnet, and the Web server services registered by external packages like MKS Toolkit and Windows.
   a. Permanently disable SSH and Telnet services from external packages like MKS Toolkit. Refer to Appendix A, "Stopping MKS Services"for details.
   b. Permanently disable the Windows native Telnet service. Refer to Appendix B, "Stopping the Telnet Service" for details.
2. If Oracle is installed on the server, stop the Oracle HTTP server.
3. Install and configure LMS Common Services:
   a. Install LMS Common Services. Refer to the guide *Installing CiscoWorks Common Services 1.0 on Windows 2000* for details.
   b. Install LMS Resource Manager Essentials (RME). Refer to the *Installation and Setup Guide for Resource Manager Essentials* for details.
   c. Permanently disable the TFTP service registered by LMS Common Services.
   d. Temporarily stop the Daemon Manager service registered by LMS Common Services.
   e. Temporarily stop the IPM PM server service if the Internet Performance Manager is installed.
4. Install NCM and configure NCM services:

a. Install NCM. Refer to the *Quick Start Guide for CiscoWorks Network Compliance Manager* for details.

b. Temporarily stop Syslog services registered by NCM.

c. Temporarily stop the Management Engine Service registered by NCM.

5. Configure LMS for co-residency:

a. Edit the registry settings to run the LMS Common Services Syslog service on port **9514**. This resolves a Syslog service port conflict between LMS Common Services and NCM.

b. Edit registry settings for the LMS TFTP service to use the NCM TFTP service.

c. Change the LMS apache port to **7443** if Oracle is installed on the same server.

6. Configure NCM for co-residency:

a. Modify the Syslog service registered by NCM to forward all Syslog messages to the LMS Common Service's Syslog server running on port 9514.

b. Edit the NCM HTTP Web Server settings to run on port **9080** instead of the default port 80 to avoid conflicts with the LMS Common Service's Web server or the Oracle Web Server.

c. Edit the NCM HTTPS Web Server settings to run on port **9443** instead of the default port 443 to avoid conflicts with the LMS Common Service's Web server or the Oracle Web Server.

d. Modify the NCM URLs to use the new port settings of **9443** for https and **9080** for http.

e. Edit the NCM RMI settings to run on port **9444** instead of the default port 4444 to avoid conflicts with LMS Common Service's RMI settings.

f. Modify the **dcr_export.bat** file to allow exporting device details from LMS to NCM.

7. Restart services and establish cross launching.

a. Restart NCM services:

– Start the Syslog service registered by NCM.

– Start the Management Engine Service registered by NCM.

– Modify the NCM reporting link to use the new port setting **9080** for http.

b. Restart LMS services:

– Start the Daemon Manager service registered by LMS Common Services.

– Start the IPM PM server service if the Internet Performance Manager is installed.

Note If IPM is installed on the server, start **IPM PM Server** only after NCM services are started.

c. Configure NCM and LMS to enable cross launch-based integration.

Table 2-1 lists the port modifications that you must make to avoid port conflicts when enabling NMC and LMS co-residency.

Table 2-1 NCM and LMS Co-residency Port Settings

Service Name	LMS Default Port	LMS Modified Port	NCM Default Port	NCM Modified Port
Syslog	514	9514	514	Not changed
HTTP	N/A	N/A	80	9080

Table 2-1 NCM and LMS Co-residency Port Settings (continued)

Service Name	LMS Default Port	LMS Modified Port	NCM Default Port	NCM Modified Port
HTTPS	443	7443 (if Oracle is installed)	443	9443
RMI	4444	Not changed	4444	9444
JNP	1099	If IPM is installed, set **IPM PM server** -> **Startup Type** to **Manual**.	1099	Not changed
TFTP	69	Stopped	69	Not changed

The following sections contain detailed information on NCM and LMS co-residency installation procedures.

Detailed Co-residency Installation Procedures

The following sections contain detailed instructions for enabling NCM and LMS co-residency. These sections include:

- Stopping the Oracle Server, page 2-3
- Installing and Configuring LMS, page 2-4
- Installing NCM, page 2-6
- Configuring LMS for Co-residency, page 2-7
- Configuring NCM for Co-residency, page 2-9
- Restarting the NCM Services, page 2-17
- Restarting the LMS Services, page 2-19
- Configuring for Cross Launch of NCM and LMS, page 2-20

Stopping the Oracle Server

If you have the Oracle HTTP Server installed, you must temporarily stop it before installing NCM. To stop the Oracle server, do the following:

Step 1 Navigate **Start > Settings > Control Panel > Administrative Tools > Services** to access the Services window.

A list of Local Services appears.

Step 2 Right-click **Oracle<OraHome>HTTPServer**.

Step 3 Click the **Stop** button.

The Service Control window displays the message **Windows is attempting to stop the following service on Local Computer**.

Step 4 Click the **Close** button.

Installing and Configuring LMS

The next step in enabling NCM and LMS co-residency is to install and configure LMS. Do the following:

Step 1 Install CiscoWorks Common Services and CiscoWorks Resource Manager Essentials. Install other LAN Management Solution applications if required.

Refer to the specific product documentation for instructions on installation.

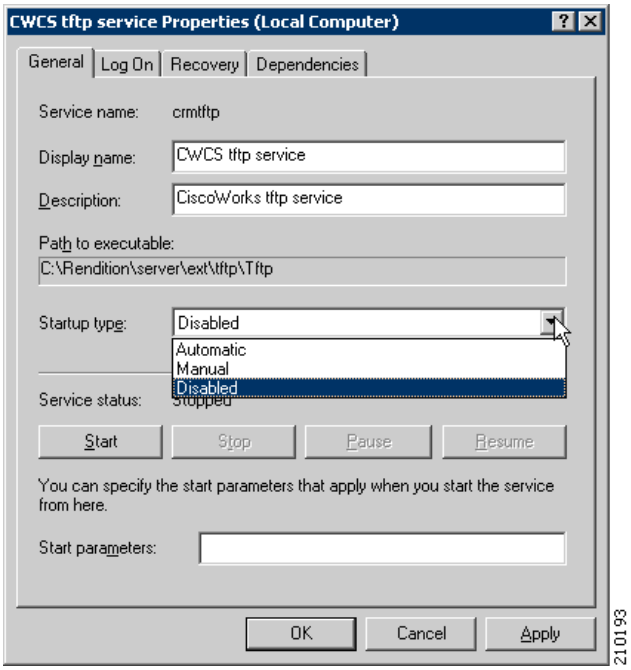
Step 2 Disable the LMS tftp server.

a. Navigate **Start > Settings > Control Panel > Administrative Tools > Services** to access the Services window.

b. Right-click **CWCS tftp service** and select **Properties**.

c. Set the **Startup Type** to **Disabled** as show in Figure 2-1

Figure 2-1 Disabling the CWCS tftp Service Window



d. Click the **Stop** button.

e. Click the **OK** button.

Step 3 Temporarily stop the CiscoWorks Daemon Manager.

a. Navigate **Start > Settings > Control Panel > Administrative Tools > Services** to access the Services window.

b. Right-click the **CiscoWorks Daemon Manager** service.

c. Click the service **Stop** option from the popup menu.

d. Click the **OK** button.

   The service control window displays the message **Windows is attempting to stop the following service on Local Computer....CiscoWorks Daemon Manager**.

e. Click the **Close** button.

Note You can also temporarily stop the CiscoWorks Daemon Manager from the command prompt. Navigate to **Start > Run**. Type: **cmd.exe** Then type: **net stop CRMDmgtd**

Step 4 Temporarily stop the CiscoWorks Syslog Server.

a. Navigate **Start > Settings > Control Panel > Administrative Tools > Services** to access the Services window.

b. Right-click **CWCS syslog service**.

c. Select the **Stop** option from the popup menu.

Note You can also temporarily stop the CiscoWorks Syslog Server from the command prompt. Navigate to **Start > Run** Type: **cmd.exe** Then type: **net stop crmlog**

Step 5 If the Internet Performance Manager is installed as a part of LMS, temporarily stop the IPM PM Server Service. Do the following:

a. Navigate **Start > Settings > Control Panel > Administrative Tools > Services** to access the Services window.

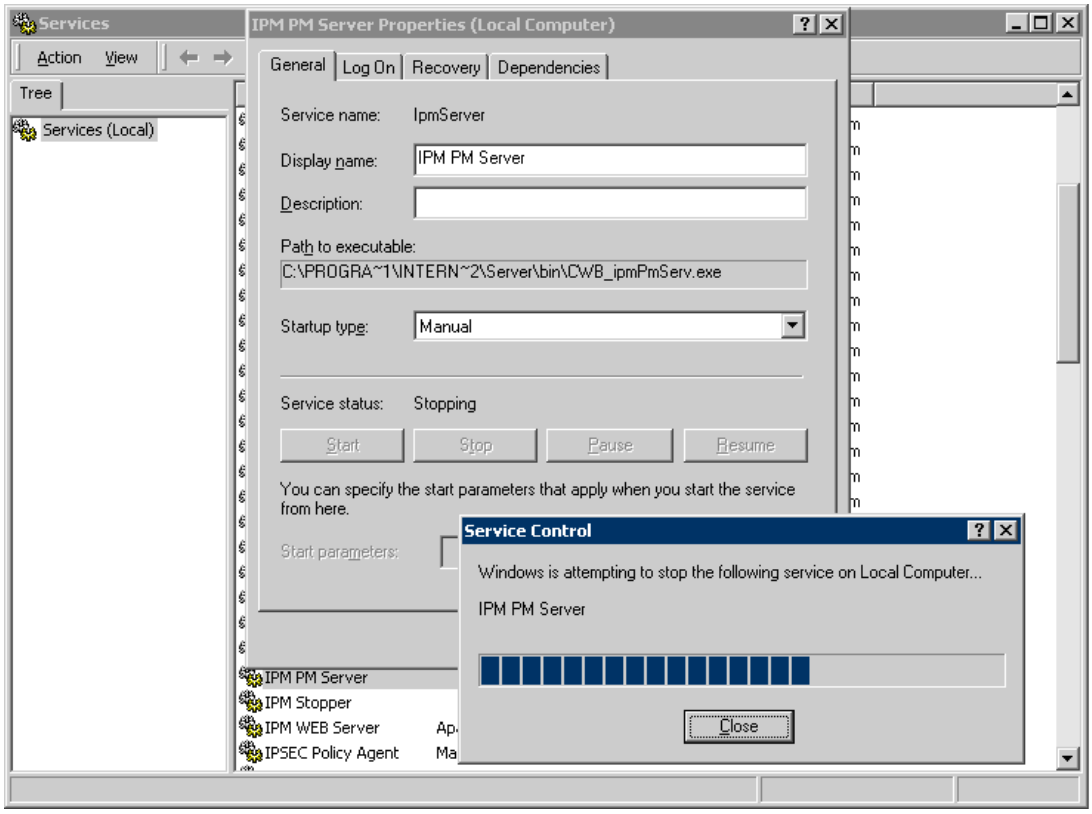
b. Right-click **IPM PM Server** and select **Properties**.

c. Set the **Startup Type** to **Manual**.

d. Click the **Stop** option from the popup menu

   The service control window displays the message **Windows is attempting to stop the following service on Local Computer....IPM PM Server**. See Figure 2-2.

Figure 2-2 IBM PM Server Properties Window



e. Click the **Close** button.

Installing NCM

To install NCM, refer to the *Quick Start Guide for CiscoWorks Network Compliance Manager, 1.2* for installation instructions.

Note Do not store copies or backups of the configuration files in the NCM installation directory or its sub directories.

Once NCM1.2 is installed, do the following:

Step 1 Temporarily stop the NCM Syslog Server service.

a. Navigate **Start > Settings > Control Panel > Administrative Tools > Services** to access the Services window.

b. Right-click the **TrueControl Syslog Server** service.

c. Select the **Stop** option from the popup menu.

The service control window displays the message **Windows is attempting to stop the following service on Local Computer....TrueControl Syslog Server**.

d. Click the **Close** button.

Note You can also temporarily stop the NCM Syslog Server from the command prompt. Navigate to **Start > Run** Type: **cmd.exe** Then type: **net stop** TrueControlSyslog

Step 2 Temporarily stop the NCM Management Engine service.

a. Navigate **Start > Settings > Control Panel > Administrative Tools > Services** to access the Services window.

b. Right-click the **TrueControl Management Engine** service.

c. Select the service **Stop** option from the popup menu.

The service control window displays the message **Windows is attempting to stop the following service on Local Computer....TrueControl Management Engine**.

d. Click the **Close** button.

Note You can also temporarily stop the NCM Syslog Server from the command prompt. Navigate to **Start > Run** Type: **cmd.exe** Then type: **net stop** TrueControlJboss

Configuring LMS for Co-residency

To configure LMS for co-residency, do the following:

Step 1 Configure the Syslog service to run on port **9514**.

a. Navigate **Start > Run**.

b. Enter **regedit**.

c. Click the **OK** button.

d. Navigate to **HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\crmlog\Parameters**.

e. Right-click on the **CrmLogPort** property.

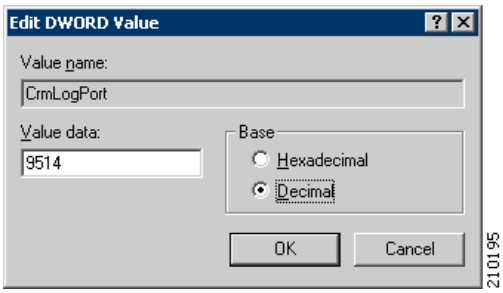
f. Select **Modify** from the popup menu.

The **Edit DWORD Value** window appears.

g. Click **Decimal** for the Base setting.

h. Enter **9514** in the **Value data** field. See Figure 2-3.

Figure 2-3 Edit DWORD Value Window



i. Click the **OK** button to complete

Step 2 Configure LMS to use the NCM tftp service.

a. Navigate **Start** > **Run**.

b. Enter **regedit**.

c. Click the **OK** button.

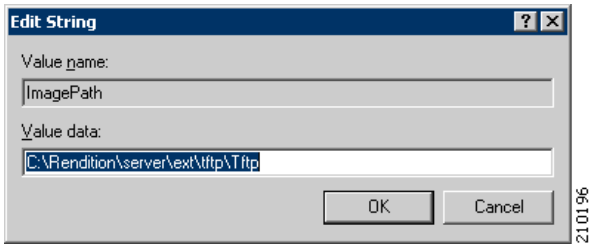
d. Navigate to **HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\crmtftp**.

e. Right-click on the **ImagePath** property and select **Modify** from the popup menu.

The **Edit String** window appears.

f. Enter **<*NCM installation path*>\Rendition\server\ext\tftp\tftpdroot** in the **Value data** field. See Figure 2-4.

Figure 2-4 Edit String Window



g. Click the **OK** button to complete.

h. Navigate to **HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\crmtftp\Parameters**.

i. Right-click **Directories** and select **Modify** from the menu.

The **Edit String** window appears.

j. Enter **<*NCM installation path*>\Rendition\server\ext\tftp\tftpdroot** in the **Value data** field.

k. Click the **OK** button to complete.

Step 3 Configure the LMS Apache port if Oracle is installed. Follow these steps **only** if Oracle is installed and running on the same server.

a. From the command prompt, enter **cmd.exe**.

b. Navigate to the directory **<*LMS install path*>\CSCOpx\MDC\Apache**.

c. Enter **changeport 7443 –s**.

d. When prompted **Do you wish to continue (y/n)?**, enter **y**.

Configuring NCM for Co-residency

To configure NCM for co-residency, do the following:

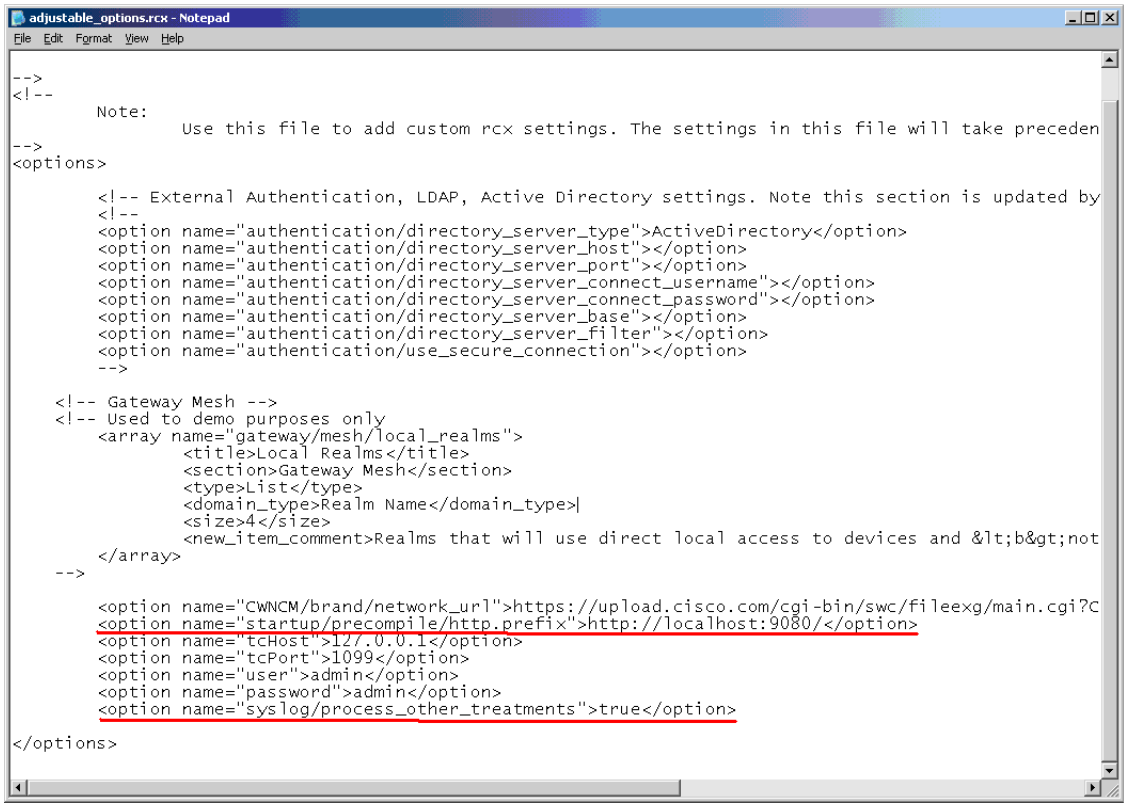
Step 1 Configure NCM to forward Syslogs to LMS.

a. Navigate to **<*NCM installation path*>\Rendition\jre\adjustable_options.rcx**.

b. Add the option:
<option name="startup/precompile/http.prefix">http://localhost:9080/</option>.

c. Add the following option, making sure that it is the last line in the file.as the last option in the file:
<option name="syslog/process_other_treatments">true</option>. See Figure 2-5.

Figure 2-5 Adjustable Options File Example

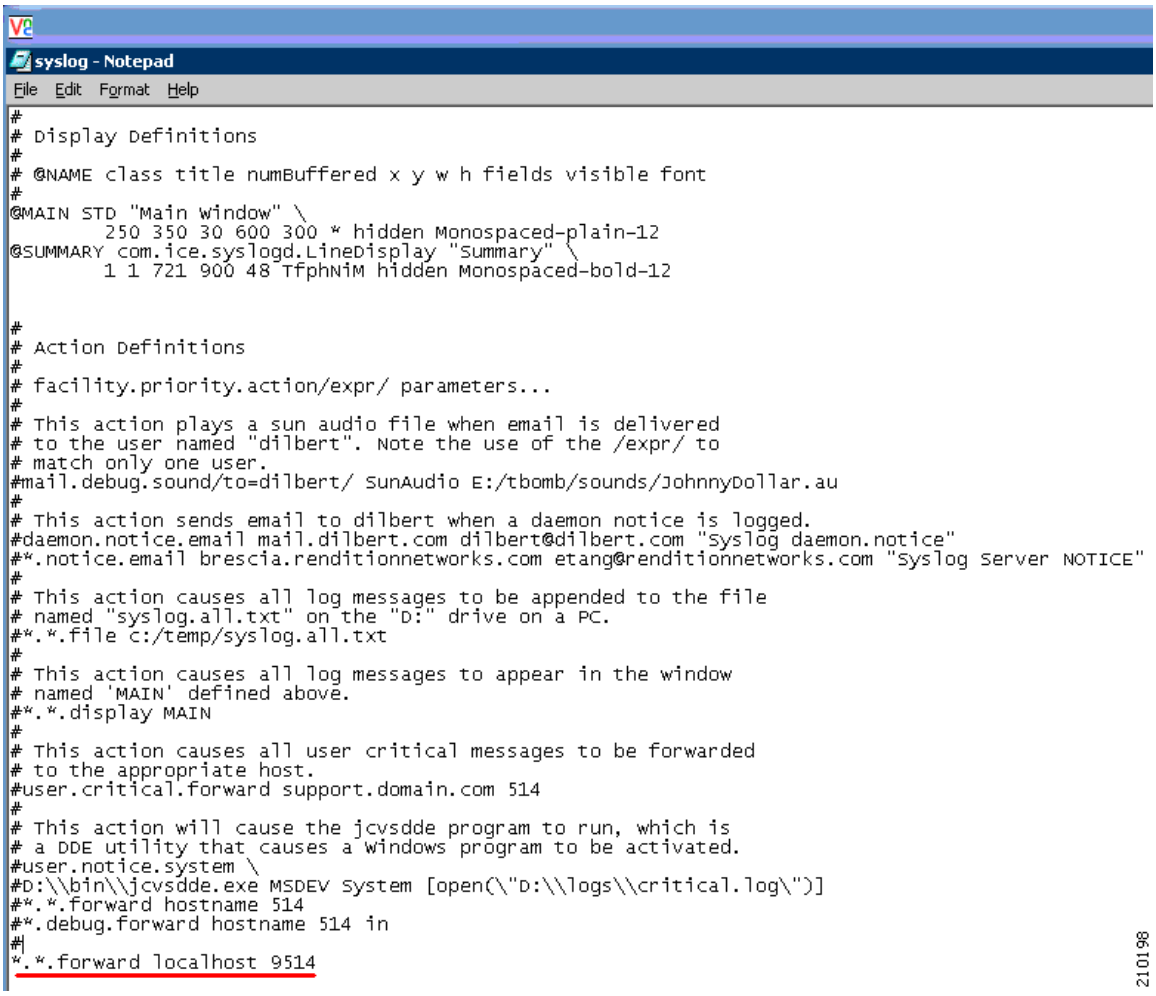


d. Save the changes made to the file and exit.

e. Navigate to the file **<*NCM installation path*>\Rendition\server\conf\syslog.conf**.

f. Add the following line to the end of the file: ***.*.forward localhost 9514**. See Figure 2-6.

Figure 2-6 syslog.conf File Example



g. Save changes made to the file and exit.

Step 2 Configure the NCM Web service.

a. Navigate to the file ***<NCM Installation path>*\Rendition\server\ext\jboss\server\default\deploy\tomcat4-service.xml** where *NCM Installation path* is the path to the location where NCM is installed.

b. Enter **9080** for the NCM HTTP connector port setting.

c. Redirect HTTP requests at port 9080 to HTTPS port **9443**.

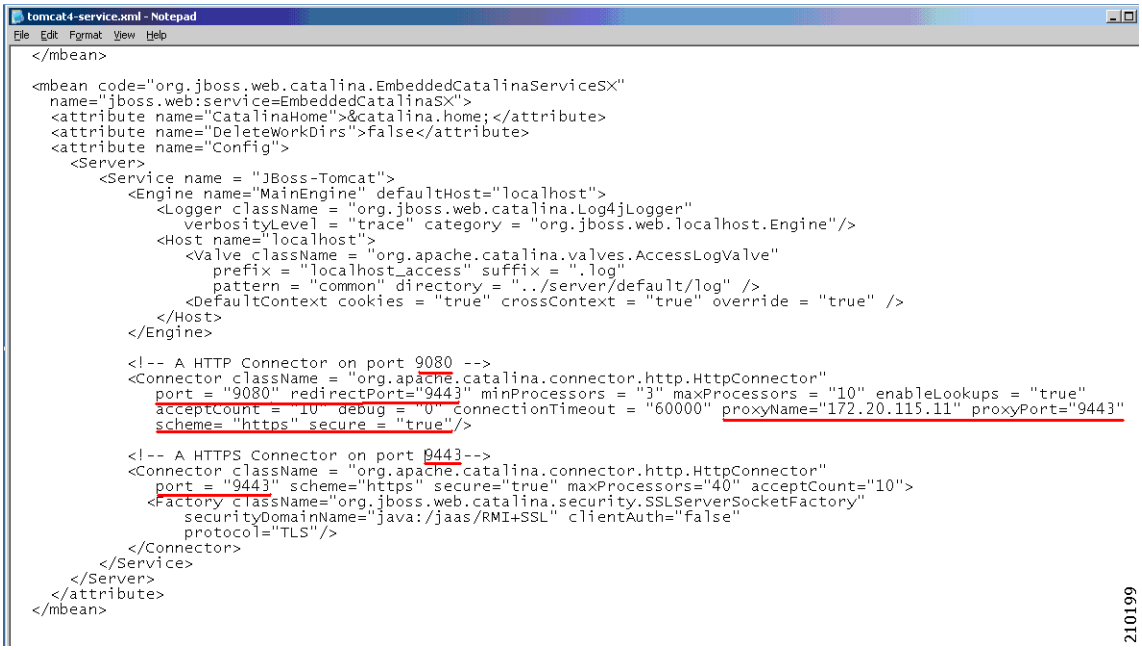
d. Set the **proxyName** to ***<ip_address>*** where *ip_address* is the IP address of your NCM system.

e. Set the **proxyPort** to **9443**.

f. Set the scheme to **https**.

g. Set the **secure** value to **true**. See Figure 2-7.

Figure 2-7 tomcat4-service.xml File Example



Step 3 Configure the NCM HTTPS connector.

a. Enter **9443** for the NCM HTTPS connector port setting. See Figure 2-7.

Step 4 Configure the Windows Start Menu Web URL paths for NCM.

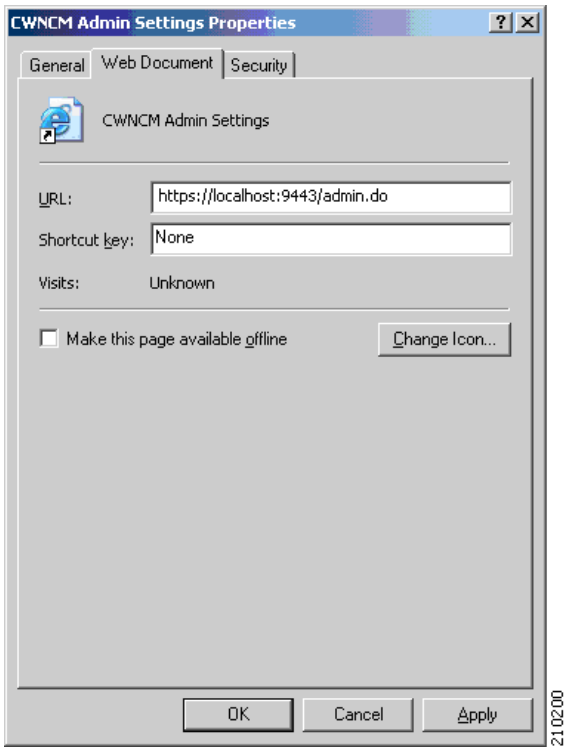
As a result of changing the NCM Web Server port from 443 to 9443, you must update the Start Menu associated with NCM

a. Navigate to **C:\Documents and Settings\<*user*>\Start Menu\Programs\CWNCM**.

b. Right-click on **CWNCM Admin Settings** and select **Properties** from the popup menu.

The CWNCM Admin Settings Properties window is displayed. See Figure 2-8.

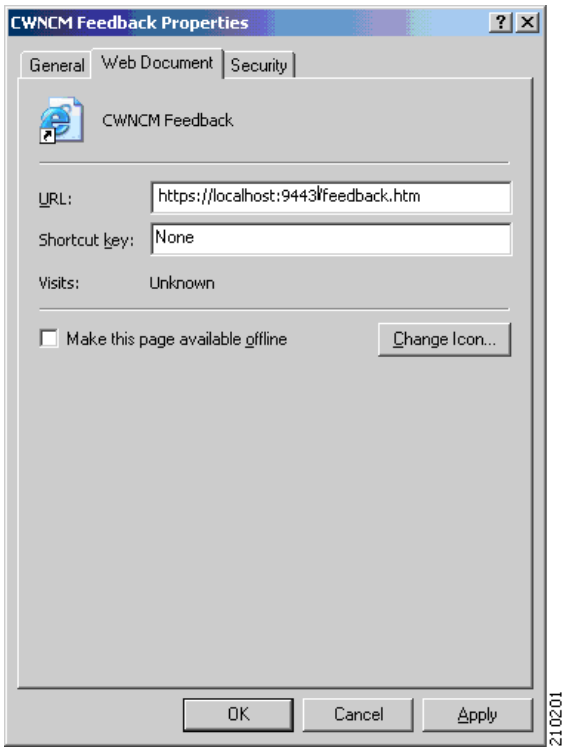
Figure 2-8 CWNCM Admin Settings Properties Window



c. Modify the URL to **https://localhost:9443/admin.do** and click the **OK** button.

d. Right-click on **CWNCM Feedback** and select **Properties** from the popup menu. The CWNCM Feedback Properties window is displayed. See Figure 2-9.

Figure 2-9 CWNCM Feedback Properties Window

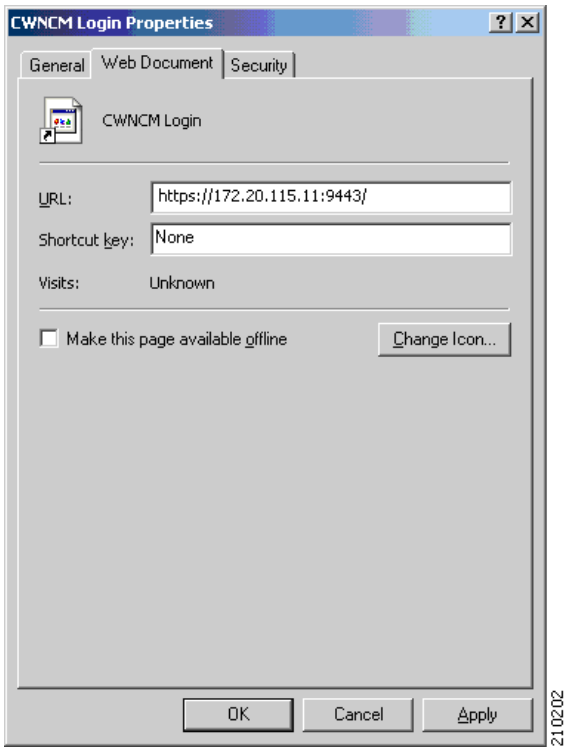


e. Modify the URL to **https://localhost:9443/feedback.htm** and click the **OK** button.

f. Right-click on **CWNCM Login** and select **Properties** from the popup menu.

The CWNCM Login Properties window is displayed. See Figure 2-10.

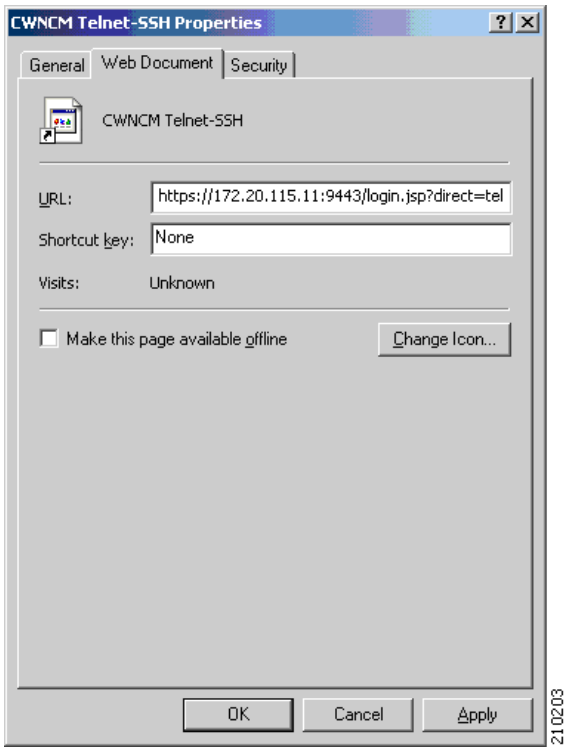
Figure 2-10 CWNCM Login Properties Window



g. Modify the URL to **https://<ip.address>:9443/** and click the **OK** button.

h. Right-click on **CWNCM Telnet-SSH** and select **Properties** from the popup menu. The CWNCM Telnet-SSH Properties window is displayed. See Figure 2-11.

Figure 2-11 CWNCM Telnet-SSH Properties Window



i. Modify the URL to **https://<ip.address>:9443/login.jsp?direct=telnet** and click the **OK** button.

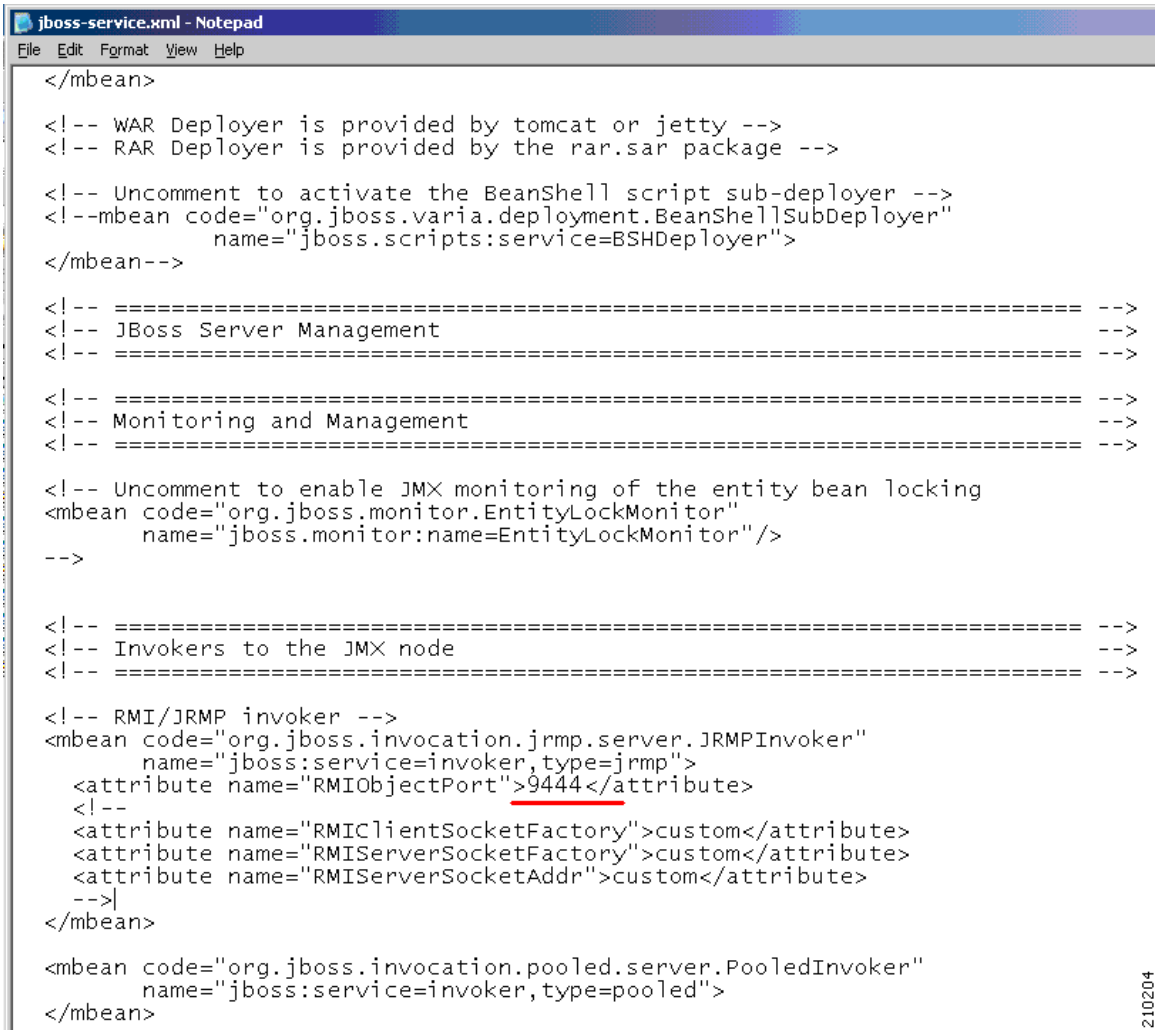
Note Because the HTTPS Connector port is modified, the NCM URL must be set to https://localhost:9443 when accessing NCM using HTTPS. The HTTP connector port has also been modified, so when accessing NCM using HTTP the URL must be set to http://localhost:9080.

Step 5 Configure the NCM RMI settings.

a. Navigate to **<*CWNCM Installation path*>\Rendition\server\ext\jboss\server\default\conf\jboss-service.xml** where *CWNCM Installation path* is the path to the location where NCM is installed.

b. Enter **9444** for the NCM RMI port setting. See Figure 2-12.

Figure 2-12 jboss-service.xml File Example

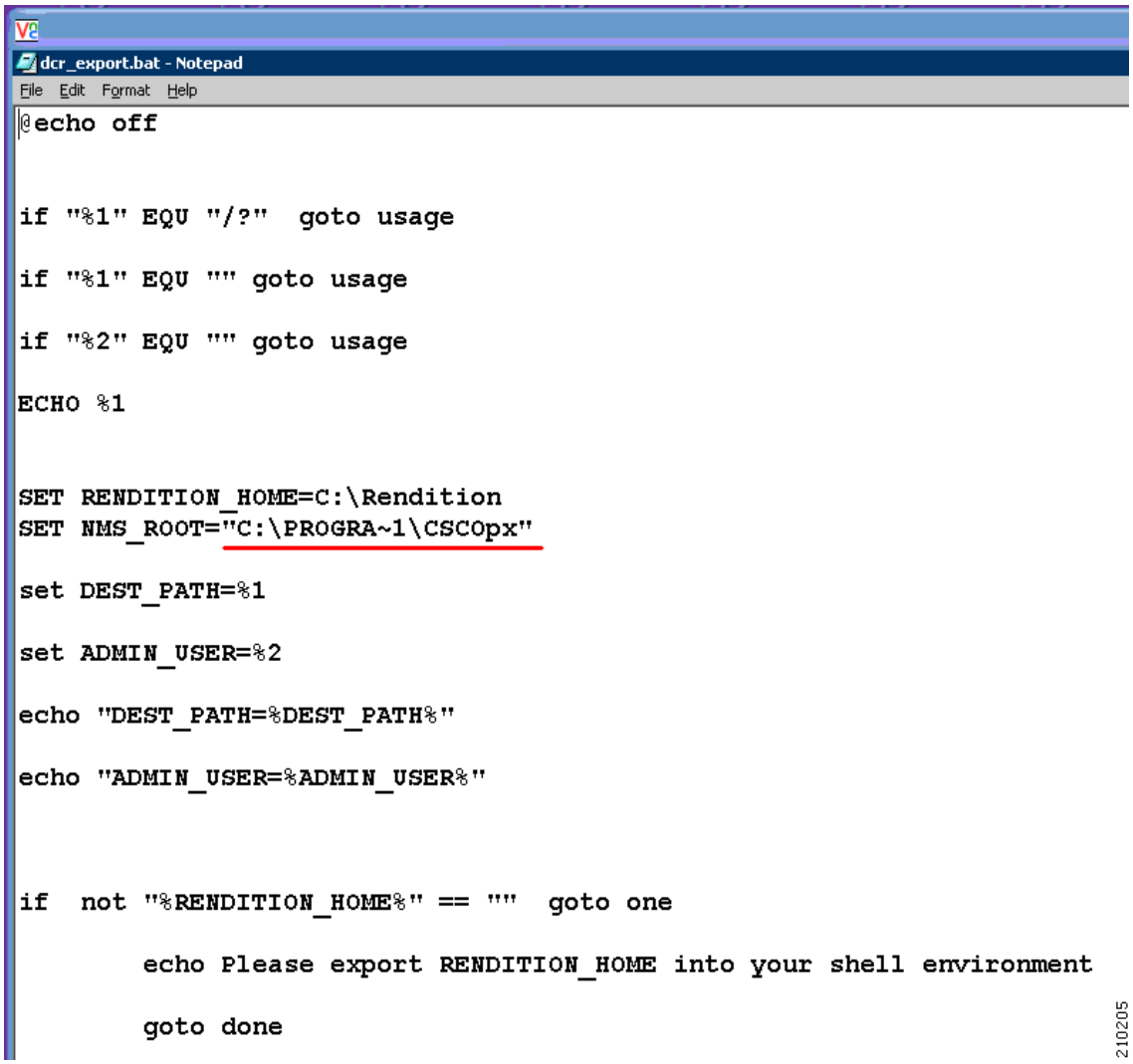


Step 6 Configure the NCM Export file.

a. Using Notepad, open the file **C:\<*CWNCM installation path*>\Rendition\client\dcr_export.bat** where *CWNCM Installation path* is the path to the location where NCM is installed.

b. Set the value of **NMS_ROOT** to the installation path of LMS. See Figure 2-13.

Figure 2-13 NMS_ROOT File Example



c. Save the file and exit.

Restarting the NCM Services

To restart the NCM services, do the following:

Step 1 Restart the Oracle HTTP server. Do the following **only** if Oracle is installed and running on the same server AND you stopped the Oracle HTTP Server as described in the "Stopping the Oracle Server" section on page 2-3.

a. Navigate **Start > Settings > Control Panel > Administrative Tools > Services** to access the Services window.

   A list of Local Services appears.

b. Right-click **Oracle<OraHome>HTTPServer**.

c. Click the **Start** button.

The Service Control window displays the message **Windows is attempting to start the following service on Local Computer.....**.

d. Click the **Close** button.

Step 2 Restart the NCM Syslog service.

a. Navigate **Start > Settings > Control Panel > Administrative Tools > Services** to access the Services window.

A list of Local Services appears.

b. Right-click **TrueControl Syslog Server**.

c. Click the **Start** button.

The Service Control window displays the message **Windows is attempting to start the following service on Local Computer.....TrueControl Syslog Server**.

d. Click the **Close** button.

Note You can also restart the Oracle HTTP server from the command prompt. Navigate to **Start > Run**. Type: **cmd.exe** Then type: **net start TrueControlSyslog**

Step 3 Start the NCM Management Engine.

a. Navigate **Start > Settings > Control Panel > Administrative Tools > Services** to access the Services window.

A list of Local Services appears.

b. Right-click **TrueControl Management Engine**.

c. Click the **Start** button.

The Service Control window displays the message **Windows is attempting to start the following service on Local Computer.....TrueControl Management Engine**.

d. Click the **Close** button.

Note You can also restart the Oracle HTTP server from the command prompt. Navigate to **Start > Run**. Type: **cmd.exe** Then type: **net start TrueControlJboss**

Step 4 Configure the NCM Email Reporting setting.

a. Login to NCM at **https://localhost:9443/**.

b. Navigate **Admin > Administrative Settings > Reporting** to access the Email Report window.

c. In the **Email Links** section, click **User Defined**. and enter **http://<*ip address*>:9080** where *ip address* is the IP address on the NCM system.

d. Click the **Save** button.

Restarting the LMS Services

To restart the LMS services, do the following:

Step 1 Start the LMS Daemon Manager.

a. Navigate **Start > Settings > Control Panel > Administrative Tools > Services** to access the Services window.

A list of Local Services appears.

b. Right-click **CiscoWorks Daemon Manager**.

c. Click the **Start** button.

The Service Control window displays the message **Windows is attempting to start the following service on Local Computer.....CiscoWorks Daemon Manager**.

d. Click the **Close** button.

Note You can also restart the Oracle HTTP server from the command prompt. Navigate to **Start > Run**. Type: **cmd.exe** Then type: **net start CRMDmgtd**

Step 2 Start the LMS Syslog Services.

a. Navigate **Start > Settings > Control Panel > Administrative Tools > Services** to access the Services window.

A list of Local Services appears.

b. Right-click **CWCS syslog service**.

c. Click the **Start** button.

The Service Control window displays the message **Windows is attempting to start the following service on Local Computer.....CWCS syslog service**.

d. Click the **Close** button.

Note You can also restart the Oracle HTTP server from the command prompt. Navigate to **Start > Run**. Type: **cmd.exe** Then type: **net start crmlog**

Step 3 Start the IPM PM Server.

Note Perform the following steps only if the Internet Performance Manager is installed as a part of LMS and you temporarily stopped the service in Step 5 of the "Installing and Configuring LMS" section on page 2-4.

a. Navigate **Start > Settings > Control Panel > Administrative Tools > Services** to access the Services window.

A list of Local Services appears.

b. Right-click **IPM PM Server**.

c. Click the **Start** button.

The Service Control window displays the message **Windows is attempting to start the following service on Local Computer.....IPM PM Server.**

d. Click the **Close** button.

Note You can also restart the Oracle HTTP server from the command prompt. Navigate to **Start** > **Run**. Type: **cmd.exe** Then type: **net start IpmServer**

Configuring for Cross Launch of NCM and LMS

To configure for cross launching of NCM and LMS, do the following:

Step 1 Add reference to LMS from NCM.

a. Login to NCM at **https://localhost:9443/**.

b. Navigate **Admin** > **Administrative Settings** > **Server** to access the Administrative Settings - Server window.

The CiscoWorks URL should display in the **CiscoWorks Server URL** field. Note that the **My Favorites** field on the left side of the window does not display the **CiscoWorks** link.

c. Navigate **Start** > **Run.**

d. Enter **cmd.exe** and click **OK**.

e. Enter **ipconfig**.

Note the **host ip address**.

f. Enter the URL as **http://<** ***ip_address*****>:1741/** where *ip_address* is the IP address of the local host.

g. Click the Save button at the top of the Administrative Settings - Server window.

Note that the CiscoWorks URL now appears in the **My Favorites** field on the left side of the window.

Step 2 Add reference to NCM from LMS.

a. Navigate **Start** > **Run.**

b. Enter **cmd.exe** and click **OK**.

c. Navigate to **<*NCM directory*>\Rendition\client** where *NCM directory* is the location of the directory where NCM is installed.

d. At the prompt, enter

copy .\CWNCM-cwhp.xml C:\<*LMS install directory***>\CSCOpx\objects\data\cmf\cmic\mst-templates**

where *LMS install directory* is the location of the directory where LMS is installed.

e. At the prompt, enter

perl .\cmic_reg-win.pl <*ip address of the current server*> 9443 add

where *ip address of the current server* is the IP address of the current server.

The following is an example of the output from this command. Note that the actual path and IP addresses may defer on your host.

```
SERVER 172.20.115.25
PORT 443

JAVA C:\PROGRA~1\CSCOpx\bin\cwjava -cw C:\PROGRA~1\CSCOpx -cp:p
MDC\tomcat\webapps\cwhp\WEB-INF\lib\cwhp.jar;lib\classpath\cmic.jar;MDC\tomcat\shared\
lib\xerces.jar;objects\log4j\1.2.8\log4j-1.2.8.jar;MDC\tomcat\shared\lib\MICE.jar;MDC\
tomcat\shared\lib\NATIVE.jar com.cisco.nm.cwcs.cwhp.applications.add CWNCM-cwhp 443
https 172.20.115.25
[Thu Aug 17 11:31:00 PDT 2006] CCR HostName is 172.20.115.25
[Thu Aug 17 11:31:00 PDT 2006] Host name is 172.20.115.25
[Thu Aug 17 11:31:00 PDT 2006] Registring the application with CWNCM-cwhp,
172.20.115.25, 443, https
[Thu Aug 17 11:31:00 PDT 2006] INFO   [CMICLogger : info]  :
com.cisco.nm.cmf.cmic.registry.OperateRecords Processing template
C:\PROGRA~1\CSCOpx/objects/data/cmf/cmic/mst-templates/CWNCM-cwhp.xml
 [Thu Aug 17 11:31:05 PDT 2006] INFO   [CMICLogger : info]  :
com.cisco.nm.cmf.cmic.registry.OperateRecords The number of records to be added : 7
 [Thu Aug 17 11:31:06 PDT 2006] INFO   [CMICLogger : info]  :
com.cisco.nm.cmf.cmic.registry.RegistryInteractor Successfully added record to the
registry :7
 [Thu Aug 17 11:31:06 PDT 2006] INFO   [CMICLogger : info]  :
com.cisco.nm.cmf.cmic.registry.OperateRecords Writing registered template at
C:\PROGRA~1\CSCOpx/objects/data/cmf/cmic/registered-templates/networkcompliancemanager
1.0.1.0.172.20.115.25.443.https.xml
```

Step 3 Refresh the LMS browser client page to reflect the changes made for cross-launch.