

CICM Upgrades

This *NN10230-461 CICM Upgrades* document provides the upgrade strategy for the Centrex IP Client Manager (CICM) 7.0, and upgrade procedures for the CICM Element Manager and CICM nodes.

Introduction

The upgrade strategy for the Centrex IP Client Manager Series 7.0 is summarized as follows:

- The upgrade of CICM Series 6.12 to CICM Series 7.0 software is performed by Nortel Networks installers only. Telco CICM administrators will not perform this upgrade. The following 3 upgrades that are performed by Nortel Network installers, are supported for this 7.0 release:
 - The software-only upgrade from CICM 6.12 to 7.0 on Hardware Revision B.
 - Upgrade from CICM 6.12 / Hardware Revision B to 7.0 / Hardware Revision C
 - Upgrade from CICM 2.5 / Hardware Revision B to 7.0 / Hardware Revision B

Note: Nortel Networks installers use the Installation Method (IM) 65-0580 for these upgrades.

- Before the CICM is upgraded, the CS2M, Core and GWC is upgraded according to CS2K guidelines.
- MR upgrades for the EM and CICM nodes may be performed by Telco CICM administrators. The EM and CICM MR procedures are provided in this document.
- For any upgrades prior to 6.12 (such as Series 2.4 to Series 2.5), refer to the *Upgrades* section of the CICM 2.5 and CICM 2.4 versions of the *NN10044-111 CICM Product and Technology Fundamentals* document.

Software version

The software applies independently to both the CICM and the Element Manager, although both should have the same version once an upgrade is completed.

The software version has the following format:
<Release number>.<build number>

Example

7.11.184

The release number is 7.11

The build number is 184

Product and Maintenance Release upgrades

There are two types of upgrades: product upgrades and Maintenance Release (MR) upgrades.

Product upgrades

Product upgrades involve upgrading the release number. For this release, the release number is increased from 6.12 to 7.0. The two product upgrade procedures performed by Nortel Networks installers are:

- Perform an EM 6.12 to 7.0 product upgrade
- Perform a CICM 6.12 to 7.0 product upgrade

Since these product upgrades are performed by Nortel Networks installers only, and not Telco CICM administrators, these upgrade procedures are not included in this document.

Maintenance Release (MR) upgrades

Maintenance Release upgrades involve build number upgrades, within the same release. With this type of upgrade, the build number is increased. For a 7.0 release, the MR changes the software version build number from 7.0.xxx to 7.0.yyy.

For this release, the following generic MR upgrade procedures are applicable and included in this document:

- Perform an EM 7.0 MR upgrade
- Perform a CICM 7.0 MR upgrade

MR upgrades are made available on CDs and on the CICM-EM Web site as they are released.

In-service MR upgrades

An in-service MR upgrade process with a minimal outage strategy is utilized for CICM Series 7.0 MR upgrades. This minimal outage upgrade strategy involves the following:

- The Terminal Handover feature can be used to transfer active terminals from the node being upgraded to the mate node.
- Terminals connected to the node being upgraded will suffer an outage while they locate the mate node.
- Active calls using resources on the node being upgraded will be lost.
- The call capacity of the CICM being upgraded is reduced by half.
- EM upgrades have no service impact.

MR upgrade implementation guidelines

The guidelines for implementing upgrades are:

- Special instructions may be provided in the release notes for Maintenance Release upgrades. It is required to read the release notes prior to upgrade.
- The order of upgrades is:
Upgrade the EM, then the CICM nodes, then the terminals. If a primary and backup EM pair are deployed, both EM(s) must be upgraded prior to the first CICM node upgrade.
Note: Terminal upgrades are not addressed in this document. Refer to the *NN10027-113 CICM Series 6.12 Etherset Installation Guide and User Manual*, and the *NN10182-113 CICM Series 6.12 m6350 Client Installation Guide*.
- Each node of the CICM is upgraded individually. However, paired nodes should be upgraded to the same software version. Running paired nodes at different versions for extended periods can result in degradation in performance or behavior.
- Configuration changes should not be made during the upgrade.
- The upgrade should be performed during the lowest call traffic period to minimize impact on users.
- The upgrade will take one to two hours to complete.
Note: Service degradation (call capacity reduction) only occurs for various segments of the upgrade period.

- Resource utilization (i.e. active call count) can be monitored via the Element Manager Web pages. (For MR upgrades only; not applicable to product upgrades.)
- For all procedures provided in this document, it is required to use administrator userids and passwords to login to the Element Manager.

Software ordering process

CICM software is ordered from Nortel Networks via the standard software ordering process. Refer to the CICM Software Release Lineup table below for the Series 7.0 software ordering codes.

Table 1 CICM Software Release Lineup

NCL/MNCL Order Codes	Description
CICM0071	CentrexIP Client Manager Gateway
CICMM071 CICEM071	CentrexIP Client Manager Gateway Maintenance Release
	CDROM containing the latest MR release.
CICE0071	CentrexIP Client Manager Element Manager Installation Maintenance Release CDROM
CICI0071	CentrexIP M6350 SoftClient Installation Download from < http://www.nortelnetworks.com/centrexip >
CIVP0024	CXIP Backup/Restore Tool (BRT) CDROM

General upgrade procedures

This section provides the standard procedures for applying MR upgrades to the EM and CICM software. They are performed by Telco administrators.

Verify the software version of a 6.12 EM and CICM

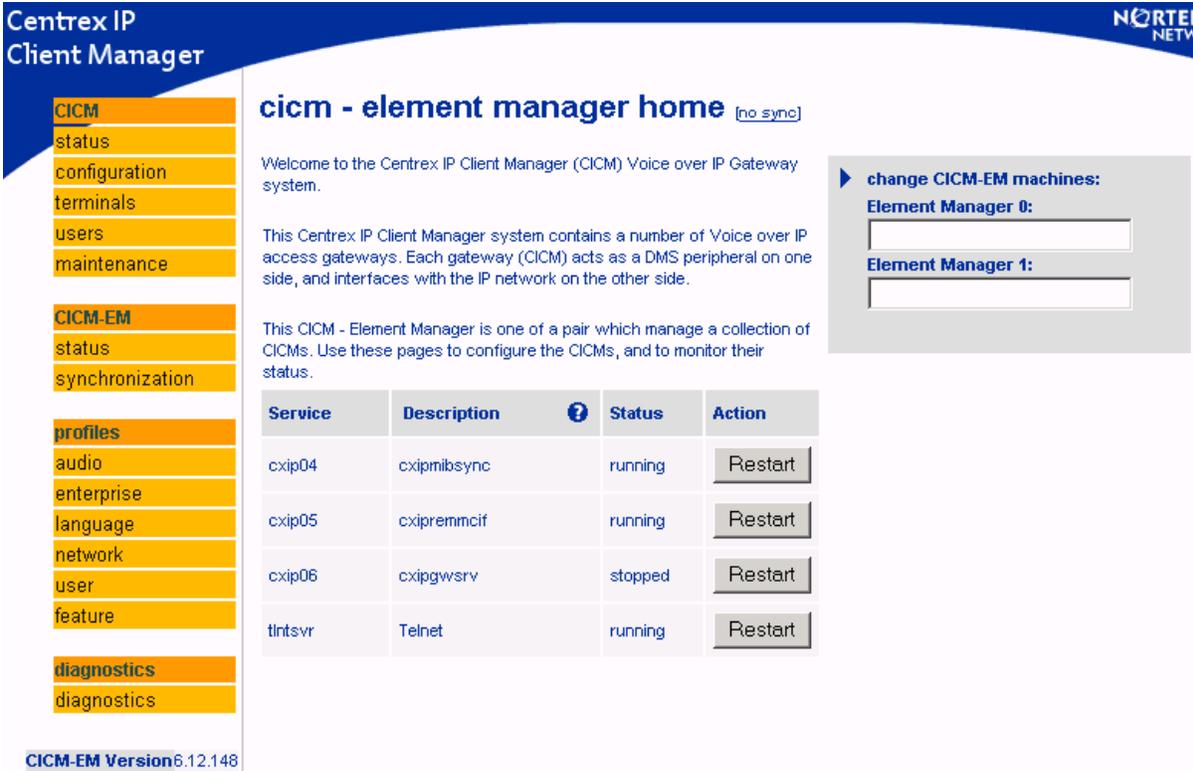
Use this procedure to verify the software version of a 6.12 EM and its 6.12 CICM nodes.

Note: It is required to use administrator userids and passwords to login to the Element Manager.

Procedure 1 Verify the software version of a 6.12 EM and CICM

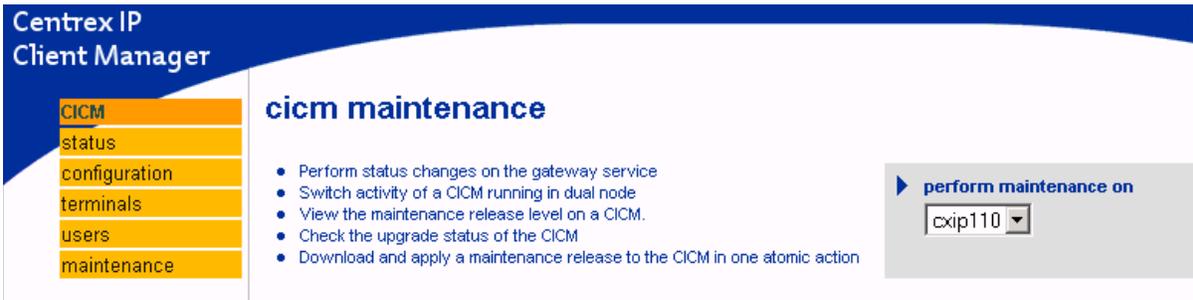
At the CICM - Element Manager Home page of the Element Manager Web pages

- 1 View the Element Manager version on the bottom left corner of any 6.12 Element Manager Web page, as shown in the following figure.



- 2 To view the CICM nodes versions, select **maintenance** from the **CICM** section of the left menu.

*Response: The **cicm maintenance** page opens.*



- 3 Select the CICM to view from the drop-down menu on the **perform maintenance on** text box on the right.
- Response: The **maintenance status <cicm_name>** page opens.*

The screenshot shows the Centrex IP Client Manager interface. The main content area displays the maintenance status for two nodes, Node A (cxip120a) and Node B (cxip120b). The left sidebar contains a navigation menu with categories like CICM, CICM-EM, profiles, and diagnostics. The right sidebar contains control panels for applying maintenance release, transferring terminals, and service control for each node.

Node A (cxip120a)	
Node status	master
Service Status	running
Node Maintenance status	system idle (current reboot count: 0)
Version	6.12.130
Terminal Service	started
Number of logged in users	0 (total logins=0)
Active Terminals	1
Active Calls	0 (total calls=0)

Node B (cxip120b)	
Node status	slave
Service Status	running
Node Maintenance status	system idle (current reboot count: 0)
Version	6.12.130
Terminal Service	started

- 4 The software version for each CICM node is shown in the **Version** field of the **Node A/B** status windows. In the figure above, Node A and Node B are both at version 6.12.130.
- Note:** The EM and CICM nodes software should all be the same version for optimal performance.
- 5 This procedure is complete.

Perform an EM 7.0.xxx MR upgrade

Use this procedure to perform a CICM Element Manager 7.0.xxx MR upgrade on an Element Manager already running on a 7.0 software version.

Note: It is recommended to backup the EM prior to upgrading, so that it can be easily restored to its prior software configuration in the

event of a failure during upgrade. Use the CXIP Backup/Restore Tool, which is available on the CXIP Backup/Restore Tool CD along with relevant documentation.

Procedure 2 Perform an EM 7.0.xxx MR upgrade

ATTENTION

Verify that the EM and CICM nodes are at the Series 7.0 software version. Refer to the *View the software version of a 7.0 EM and CICM* procedure above.

If the EM and CICM nodes are not all running software version 7.0.xxx, then do not proceed with this upgrade.

ATTENTION

It is required to use Administrator userids and passwords to login to the Element Manager for this upgrade.

At a PC on the Administration LAN

- 1 Open a Windows Telnet session and login as an administrator to the Element Manager desktop. It is required to have administrator privileges to perform this procedure.

At the Element Manager Windows 2000 desktop

- 2 Obtain the EM upgrade .exe file (**Upgrade files\cicm_em_7.11.xxx.exe**) from the CentrexIP Client Manager 7.0 MR CDROM **CICEM071_MRx_7_11_xxx.iso** and place it in the Element Manager directory of your choice.
- 3 Double click on the EM upgrade .exe file to begin installation of the EM product upgrade.
Response: A DOS text window opens.
- 4 Follow the instructions in the DOS text window to completion. Press the **spacebar** to scroll through the text. After reading the instruction text, press **Enter** to begin, and **Y** to continue. Then press **Enter** to complete the final step.

This will initiate the following actions:

- The services are stopped
- The files are replaced

- The software is upgraded
- Some directories are added to the path of the current user (Administrator)
- The services are restarted

Response: The DOS window displays the results of the actions.

Note: Failures observed at this point are normally due to locked files. If this occurs, run the script one more time. Then if the files are still locked, reboot the EM and execute the EM upgrade again. There are no restrictions on the number of times you can run the EM upgrade .exe file.

At the Element Manager desktop

- 5 Open a DOS Command Prompt session in the EM.
- 6 Run the **swupgrade** command as follows:
At the DOS Command Prompt session, type **swupgrade**, then press **Enter**.
*Response: The DOS Command Prompt session displays actions that are being taken by the **swupgrade** command.*
- 7 Perform a manual EM reboot by going to the **Start** menu on the EM desktop and selecting **Shutdown**, then **Restart**.
- 8 *Verify that the Element Manager version as displayed on the Element Manager Web pages in the bottom left corner reflects the 6.12.xxx upgrade as intended. Refer to the View the software version of a 6.12 EM and CICM procedure above.*
- 9 Repeat this procedure for the other Element Manager, if applicable.
- 10 This procedure is complete.

Perform a CICM 7.0.xxx MR upgrade

Use the following procedure to apply a CICM 7.0.xxx MR upgrade to CICM nodes already running on a 7.0 software version.

Note 1: The *Perform an EM 7.0.xxx MR Upgrade* procedure (above) needs to be performed prior to this procedure. If two Element Managers are in use, both EMs must be upgraded before performing this procedure.

Note 2: It is recommended to backup the CICM nodes prior to upgrading, so they can be easily restored to their prior software configuration in the event of a major failure during upgrade. Use the

CXIP Backup/Restore Tool, which is available on the CXIP Backup/Restore Tool CD along with relevant documentation.

Note 3: In the event of a software application failure, the CICM node will resume activity at its current release level.

Limitations and Restrictions: CICM MR upgrade

The limitations and restrictions of the CICM 7.0.xxx MR upgrade process are:

- Application of the MR upgrade will result in an outage on that node of approximately 15 minutes. It should therefore be performed only during a scheduled maintenance window.
- Both nodes of the CICM must be in service for the product upgrade to begin.
- The application of the MR upgrade is a manual operation. The activation of the process cannot be scheduled.
- Once the new MR upgrade has been applied, it is impossible to go back to a previous release without a complete re-installation or the recovery of a backed-up image.
- Only one node of the CICM should have the MR upgrade applied at a time.
- Terminals connected to the node being upgraded will suffer an outage while they locate the mate node.
- Active calls using resources on the node being upgraded will be lost.
- The call capacity of the CICM being upgraded is reduced by half.

Procedure 3 Perform a CICM 7.0.xxx MR upgrade

ATTENTION

It is required to use Administrator userids and passwords to login to the Element Manager for this upgrade.

At the Element Manager Windows desktop

- 1 From the CentrexIP Client Manager 7.0 MR CDROM **CICEM071_MRx_7_11_xxx.iso**, obtain the gateway upgrade .cab file (**\Upgrade files\GW_7.0.xxx.cab**) for the upgrade required and place it on the Primary Element Manager in the **C:\CentrexIP\Patching** directory.

Note: If any obsolete gateway .cab files from previous upgrades exist in the **C:\CentrexIP\Patching** directory, you may delete them from this directory.

At the CICM - Element Manager Home page of the Element Manager Web pages

- 2 Select the **maintenance** link from the **CICM** section of the left navigation bar.

*Response: The **cicm maintenance** page opens.*

The screenshot shows the 'Centrex IP Client Manager' interface. On the left, a navigation menu lists 'CICM', 'status', 'configuration', 'terminals', 'users', and 'maintenance'. The 'CICM' menu item is highlighted. The main content area is titled 'cicm maintenance' and contains a bulleted list of actions:

- Perform status changes on the gateway service
- Switch activity of a CICM running in dual node
- View the maintenance release level on a CICM.
- Check the upgrade status of the CICM
- Download and apply a maintenance release to the CICM in one atomic action

On the right side of the page, there is a button labeled 'perform maintenance on' with a drop-down menu below it showing 'cxip110'.

- 3 Select the CICM to upgrade from the drop-down menu on the **perform maintenance on** menu on the right.

*Response: The **maintenance status <cicm_name>** page opens. The current software version for each node is displayed.*

*The **Node Maintenance status** field details the actions that are being performed on that node (for example, **system idle**, **stopping the cxipboot service**, and **starting the cxipboot service**). When the node is in service, this field displays **system idle** status.*



CICM-EM 7.0

maintenance status (cicm-200)

Node A (47.135.43.12) ?	
Node status	master
Service Status	running
Node Maintenance status	system idle (current reboot count: 0)
Version	CICM 7.0 Base Release (Build 7.20.138)
Terminal Service	started
Number of logged in users	1 (total logins=5)
Active Terminals	8
Active Calls	0 (total calls=26)

Node B (47.135.43.13) ?	
Node status	slave
Service Status	running
Node Maintenance status	system idle (current reboot count: 0)
Version	CICM 7.0 Base Release (Build 7.20.138)
Terminal Service	started
Number of logged in users	2 (total logins=2)
Active Terminals	2
Active Calls	0 (total calls=0)

apply maintenance release

Node:

Maintenance Release:

Note: Maintenance releases should be securely transferred to the "D:\Centre\IP\support\firmware\gateway_MRs" folder on the Element Manager at IP Address : 47.135.43.11

transfer terminals

Node:

Terminal Shutdown Timeout:

node A service control

Action:

node B service control

Action:

switch activity

reset counter

- Transfer the service from the node to be upgraded to the mate node as follows:

On the **maintenance status <cicm_name>** page, in the **transfer terminals** menu option on the right:

- From the **Node** drop-down menu, select the transfer direction:
 - **From node A to node B**, or
 - **From node B to node A**
- Then select the **Terminal Shutdown Timeout** in minutes from the drop-down menu.
- Then click on the **transfer terminals** text.
- When the confirmation screen opens, click on the **confirm terminal transfer** text.
- Then click on the **start auto refresh** text on the right menu of the **maintenance status <cicm_name>** page.

Response: The terminal transfer will commence immediately upon confirmation, and will terminate when the selected timeout interval has expired.

Note: The *Perform a Terminal Handover* procedure in the *Security and Administration* section of this document provides additional details on Terminal Handover.

ATTENTION

Wait until the terminal transfer has completed before proceeding to the next step.

- 5 (OPTIONAL)
Busy the VMG units on the CS2K, using standard CS2K procedures.
Note: This step is not essential, because the VMGs will come into service automatically. However, busying the VMG may result in more desirable CS2K performance measurements.
- 6 If the **auto refresh** was started in step 5, then go to the **maintenance status <cicm_name>** page and click on the **stop auto refresh** button. This will stabilize the drop-down menus used.
- 7 Apply the upgrade. On the **maintenance status <cicm_name>** page of the EM Web pages, in the **apply maintenance release** box in the right menu bar:
 - a Select the node to upgrade from the **Node** drop-down menu (this is the node that you have transferred service **from** in step 5 above).
 - b Then select the CICM MR upgrade to apply from the **Maintenance Release** drop-down menu.
 - c Then click on the **apply maintenance release** text.
 - d Verify the proper node and file have been selected, then click on the **confirm maintenance release application** text.

*Response: The **maintenance status <cicm_name>** page updates to show the status of the upgrade.*

- 8 (OPTIONAL)
To aid in monitoring the progress of the update: on the **maintenance status <cicm_name>** page, select the

start auto refresh option for a periodic automatic refresh of the status pages.

To stop automatic refresh when monitoring is complete, select the **stop auto refresh** option.

Note: The **auto refresh** option toggles between **start** and **stop**.

- 9 To monitor the progress of the update, on the **maintenance status <cicm_name>** page, select the **system status** option on the right menu.

Response: The <cicm_name> cicm status page opens and displays the status details of the CICM.

- 10 Monitor the **<cicm_name> cicm status** page to verify that the **Service** field for the applicable node goes to **running** status.

Note: A manual restart of the node is not required.

- 11 Upon successful completion of the upgrade, check the new CICM node version as displayed in the **Version** field of the **Node A/B** status windows on the **maintenance status <cicm_name>** page.

Note: The CICM node version is displayed on the **maintenance status <cicm_name>** page, whereas the EM version is displayed in the bottom left corner of any EM Web page. Refer to the *View the software version of a 6.12 EM and CICM* procedure above.

- 12 *(REQUIRED ONLY IF STEP 6 WAS COMPLETED)*
If the VMG unit was busied previously in step 6, return the VMG unit to service as soon as the **<cicm_name> cicm status** page shows the service is **running** on the upgraded node. Use standard CS2K procedures.

- 13 After the VMG(s) are **In Service**, perform test calls on the upgraded node to verify that the upgraded node is working.

- 14 Repeat this procedure (starting at step 3) for the mate CICM node.

- 15 This procedure is complete.