CICM Upgrades

This *NN10230-461 CICM Upgrades* document provides the upgrade strategy for the Centrex IP Client Manager Series 6.12, and upgrade procedures for the CICM Element Manager and CICM nodes.

Upgrade strategy

The upgrade strategy for the Centrex IP Client Manager Series 6.12 is summarized as follows:

- Upgrade of CICM Series 2.5 to CICM Series 6.12 software is performed by Nortel Networks installers only. The Telco CICM administrators will not perform this upgrade.
- MR upgrades for the EM and CICM nodes may be performed by Telco CICM administrators. The EM and CICM MR upgrade procedures are provided in this document.
- There are no Series 6.12 hardware changes or upgrades.
  - Series 6.12 software is only compatible with 2.5 hardware.
  - Customers running CICM 2.5 may have their CICM 2.5 software upgraded to CICM 6.12 by Nortel Networks Support, and will maintain their 2.5 hardware.
  - Pre-Series 2.5 hardware must be upgraded to 2.5 release before the software can be upgraded to 6.12.
- 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
6.12.148
The release number is 6.12
The build number is 148

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 2.5 to 6.12. The two product upgrade procedures performed by Nortel Networks installers are:

- Perform an EM 2.5 to 6.12 product upgrade
- Perform a CICM 2.5 to 6.12 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 6.12 release, the MR changes the software version build number from 6.12.xxx to 6.12.yyy.

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

- Perform an EM 6.12 MR upgrade
- Perform a CICM 6.12 MR upgrade

Although there are no 6.12 MR upgrades released as of this document publication date, MR upgrades will be 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 6.12 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: EM, then CICM nodes, then 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 2.5 Etherset Installation Guide and User Manual*, and the *NN10182-113 CICM Series 2.5 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.

Coexistence of Series 6.12 and previous releases

A Series 6.12 Element Manager can only manage Series 6.12 and 2.5 CICMs.

The CICM gateway is able to support full-capacity service while one of the nodes is running on the 6.12 load and the other node is running on the 2.5 load. However, this full-capacity service can only be supported for a short period during the upgrade process.

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 6.12 software ordering codes.

Table 1 CICM Software Release Lineup

NCL/MNCL Order Codes	Description
CICMM0612	**CentrexIP Client Manager Gateway Maintenance Release** CDROM containing the latest MR release. ***Note 1:*** This is linked to the CICM00612 set. If an MR exists when CICM00612 is ordered, you will automatically get this 5th CD. ***Note 2:*** When a new MR is created, this CD is overwritten and existing customers are automatically sent the new CD with the latest MR.
CICEM0612	**CentrexIP Client Manager Element Manager Installation Maintenance Release** CDROM
CICI00612	**CentrexIP M6350 SoftClient Installation** Download from <http://www.nortelnetworks.com/centrexip>
CIVP00612	**CXIP Backup/Restore Tool** CDROM

Upgrade procedures

This section provides the procedures for applying MR upgrades to the EM and CICM software.

The normal mode of access to the CICM EM is via a PC connected to the Administration LAN. The procedures in this document are written

based on this mode of access. It is also possible to access the EM locally via a customer-supplied terminal (with keyboard and mouse) directly connected to the EM. In this case, the procedures are the same, except the remote access steps are skipped.

Verify the software version of a 6.12 EM and CICM

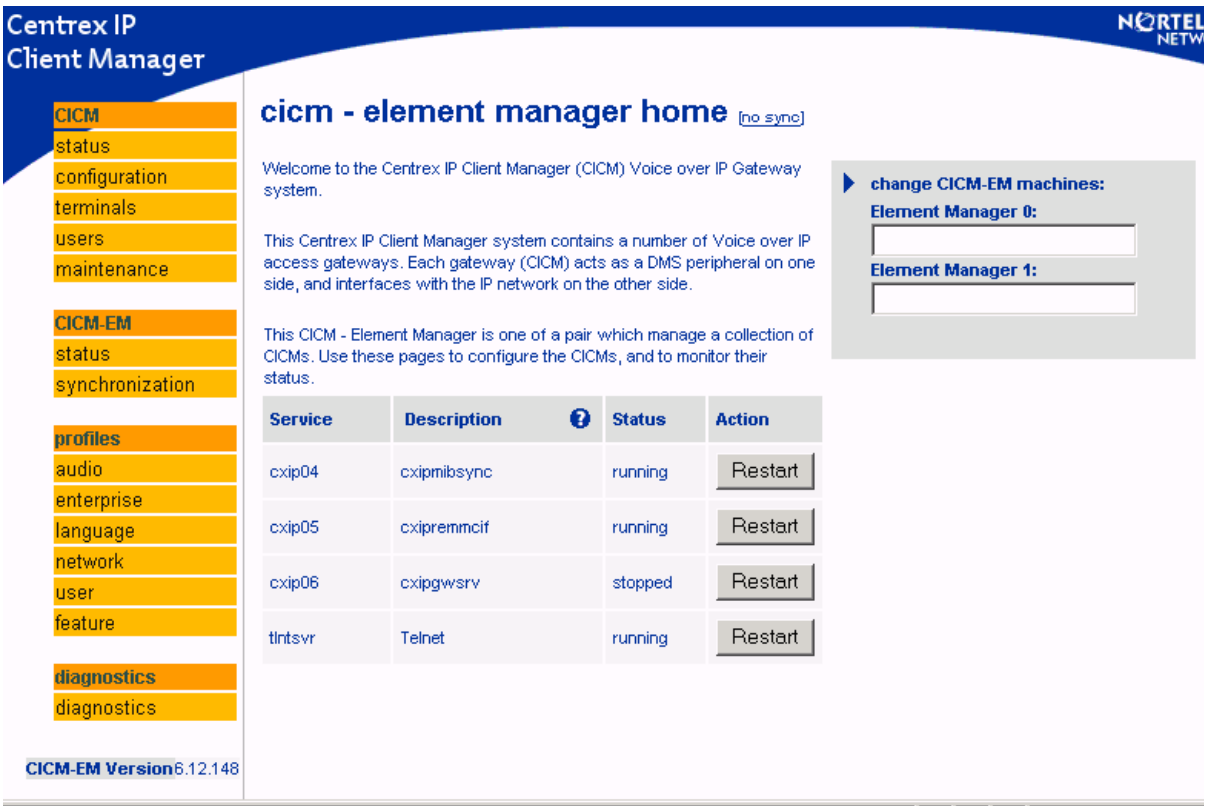
Use this procedure to verify the software version of a 6.12 EM and its 6.12 CICM nodes.

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

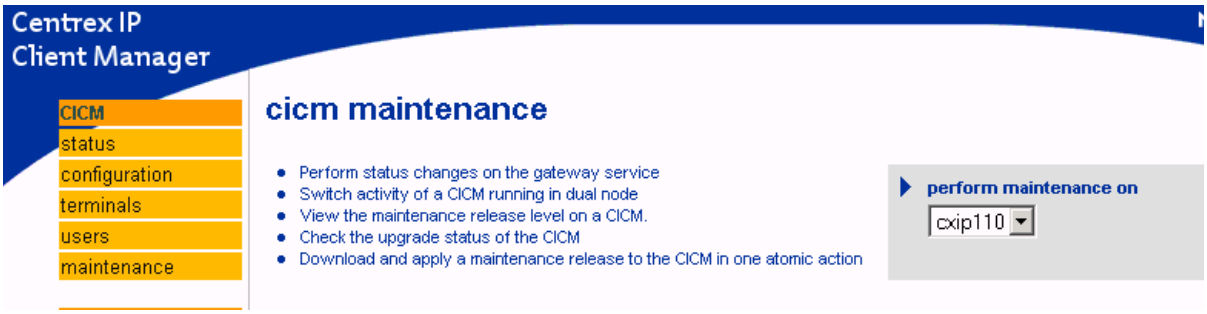
At the CICM - Element Manager Home page of the Element Manager Web pages

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.



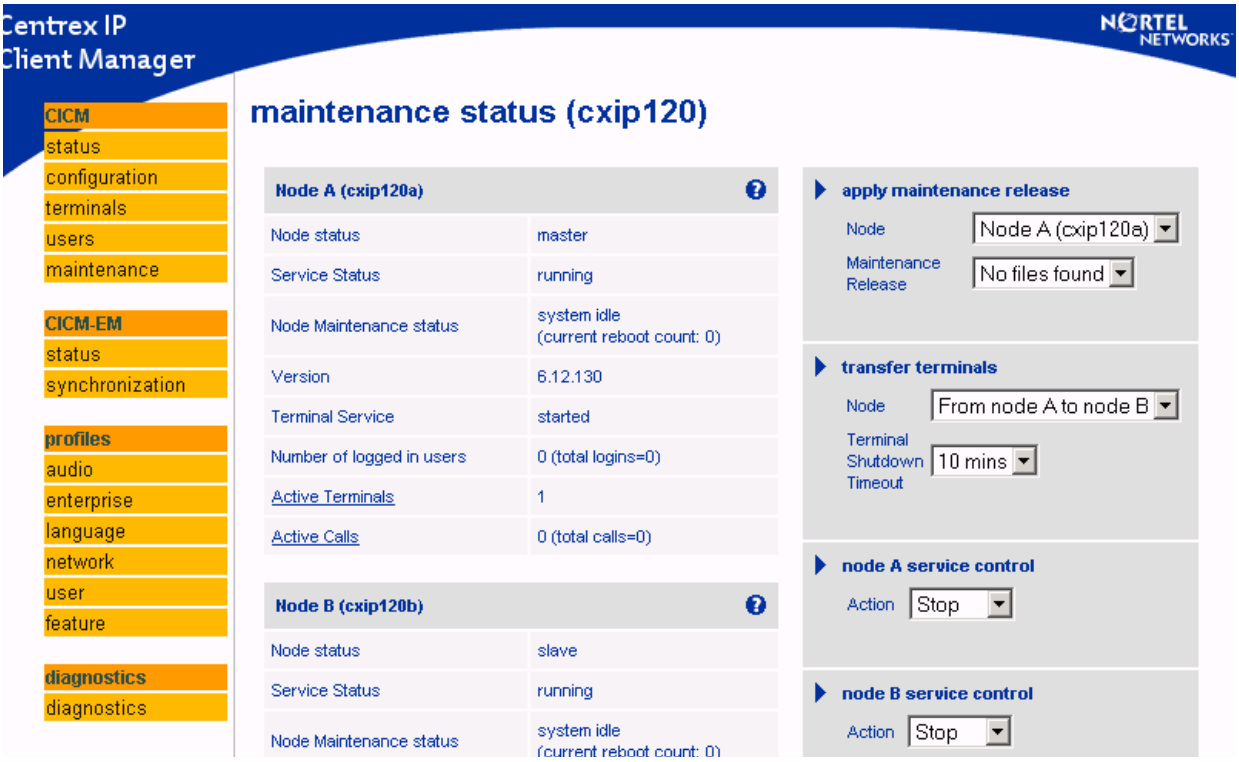
2 To view the CICM nodes versions, select **maintenance** from the **CICM** section of the left menu.

*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.*



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 3.12.130.

Note: The EM and CICM nodes software should all be the same version for optimal performance.

5 This procedure is complete.

Perform an EM 6.12.xxx MR upgrade

Use this procedure to perform a CICM Element Manager 6.12.xxx MR upgrade on an Element Manager already running on a 6.12 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 6.12.xxx MR upgrade

ATTENTION
Verify that the EM and CICM nodes are at the Series 6.12 software version. Refer to the *View the software version of a 6.12 EM and CICM* procedure above.

If the EM and CICM nodes are not all running software version 6.12, 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 Terminal Services Client or 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_6.12.xxx.exe**) from the CentrexIP Client Manager 6.12 MR CDROM **CICMM0612_MRx_6_12_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 6.12.xxx MR upgrade

Use the following procedure to apply a CICM 6.12.xxx MR upgrade to CICM nodes already running on a 6.12 software version.

Note 1: The *Perform an EM 6.12.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 6.12.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 6.12.xxx MR 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 Use Windows Terminal Services Client to login to the Primary Element Manager desktop.

At the Element Manager Windows 2000 desktop

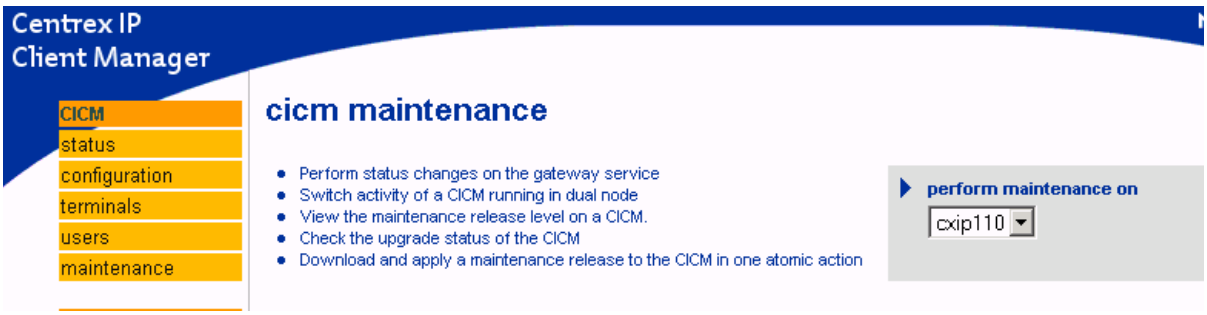
2 From the CentrexIP Client Manager 6.12 MR CDROM **CICMM0612_MRx_6_12_xxx.iso**, obtain the gateway upgrade .cab file (**\Upgrade files\GW_6.12.xxx.cab**) for the upgrade required and place it on the Primary Element Manager in the **C:\CentrexIP\Upgrade** directory.

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

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

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

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

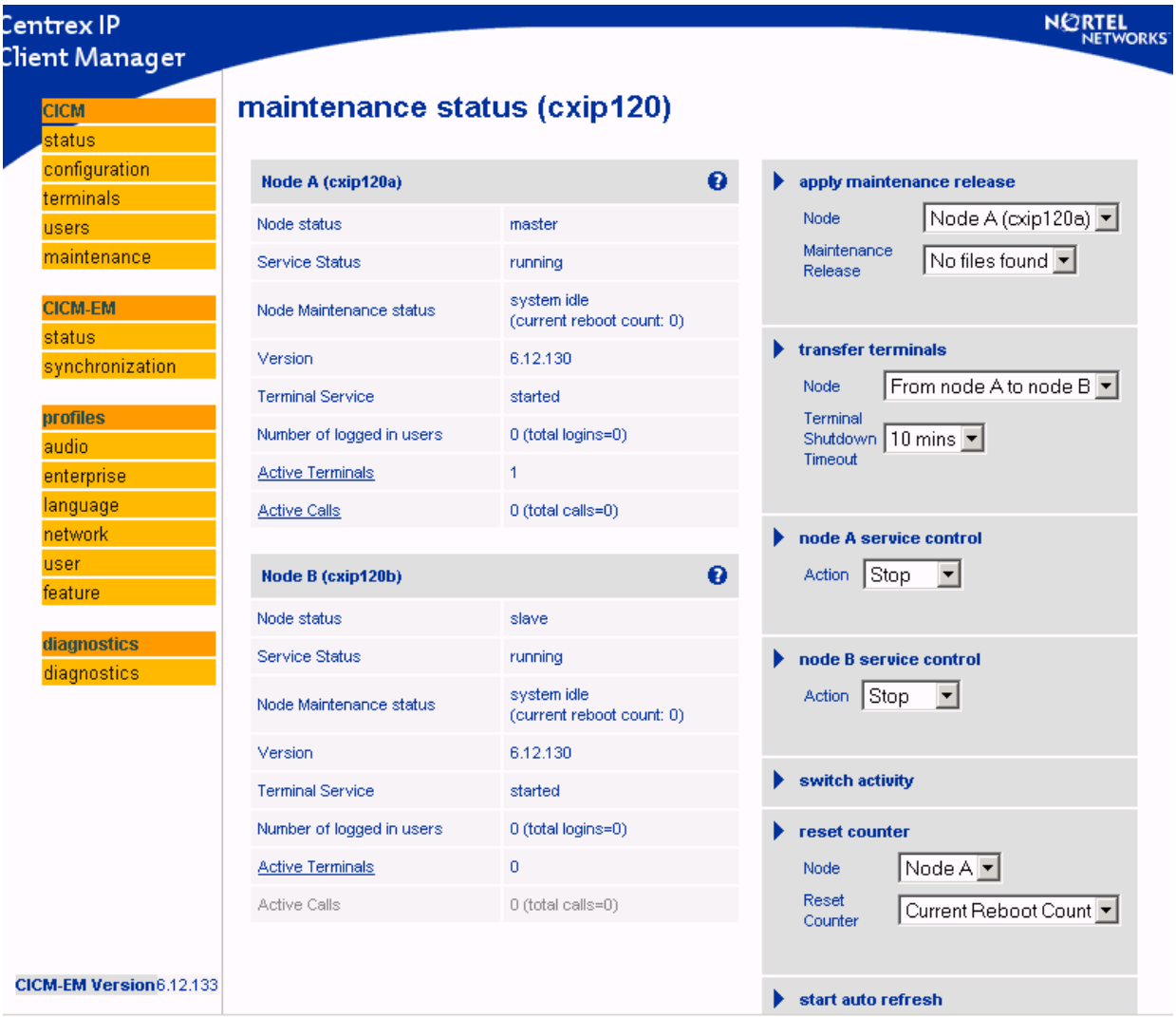


4 Select the CICM to upgrade from the drop-down menu on the **perform maintenance on** menu on the right.

*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.*



5 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.

6 *(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.

7 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.

8 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.*

9 *(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**.

10 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.*

11 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.

12 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.

13 *(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.

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

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

16 This procedure is complete.

Add card(s) Procedure

This section provides the procedure for adding cards to the chassis.

Procedure 4 Add card(s)

ATTENTION
To minimize the impact to service, it is recommended to add all the new cards to a CICM node at one time, for a one-time node reboot.

At the CICM home Web page

1 Select **maintenance** from the **CICM** section of the left menu.

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

2 Select the CICM from the drop-down menu in the **perform maintenance on** option in the right menu.

*Response: The **maintenance status <cicm_name>** page opens.*

3 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** box 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.

At the CS2K interface

4 *(OPTIONAL)*

Note: This step is not essential, because the VMGs will come into service automatically. However, it may result in more desirable CS2K performance measurements.

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.

At the CICM EM Web pages

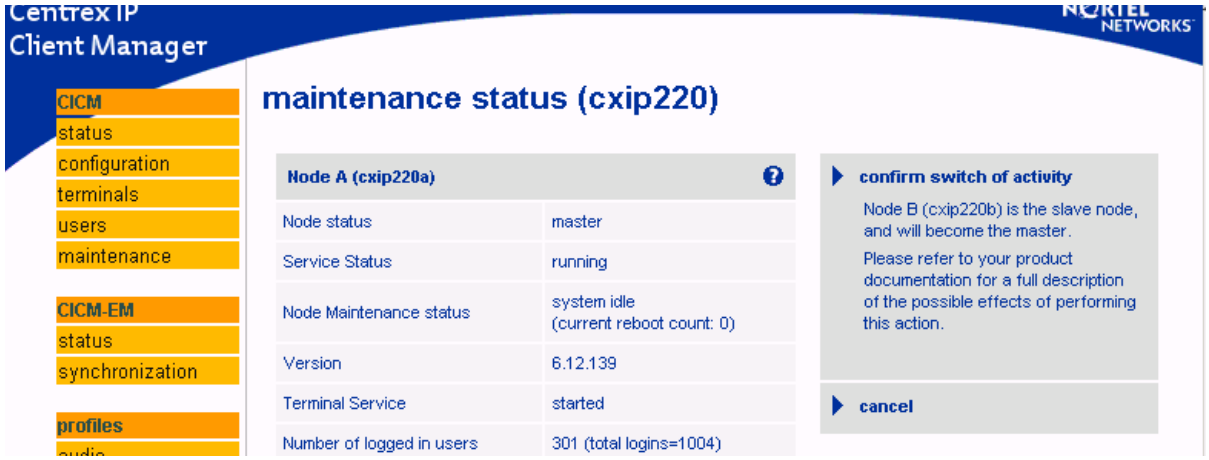
5

If	Do
The card(s) is to be added to the Slave node	Do **not** do a switch of activity: skip step 6 and proceed to step 7.
The card(s) is to be added to the Master node	Proceed with step 6 to perform a switch of activity.

6 Perform a switch of activity:

- From the **maintenance status <cicm_name>** page, select **switch activity** from the right menu.

  Response: The **maintenance status <cicm_name>** page updates to request a confirmation of the switch of activity.

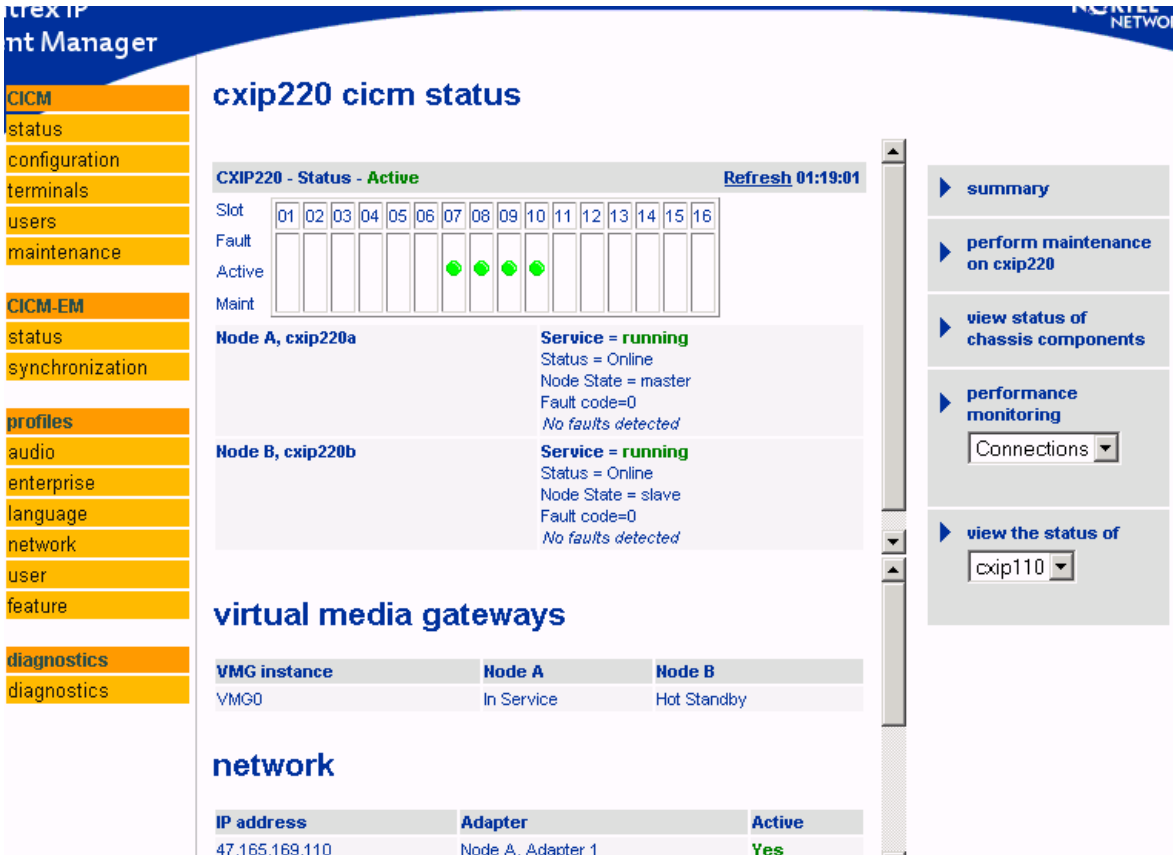


7 Stop the CICM service on the node to be powered down (i.e. the node where the card will be added).

a Click on the **status** option from the **CICM** section of the left menu bar to open the **cicm home** page.

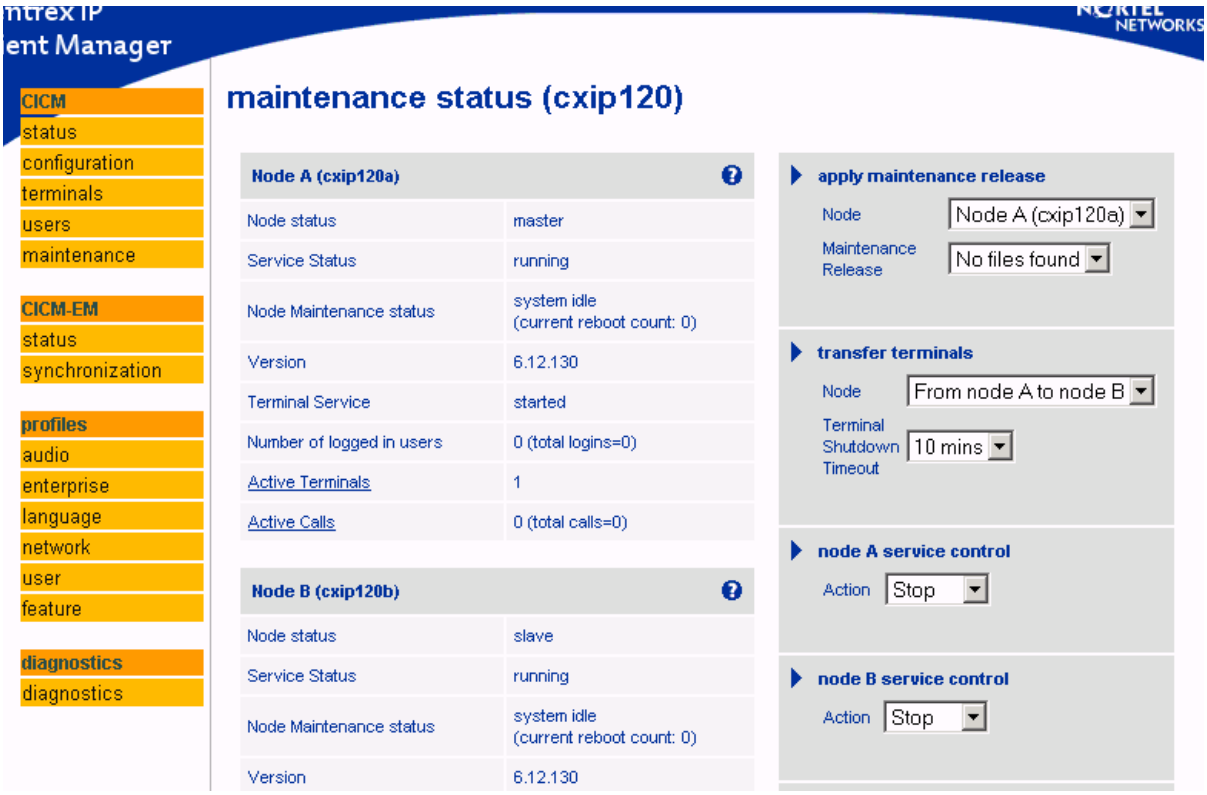
b In the **view the status of the following CICM** menu option on the right, select the CICM to view from the drop-down menu.

Response: the ***<cicm_name> cicm status*** *page opens.*



c Select **perform maintenance on <cicm_name>** option in the right menu bar.

*Response: The **maintenance status <cicm_name>** page opens.*

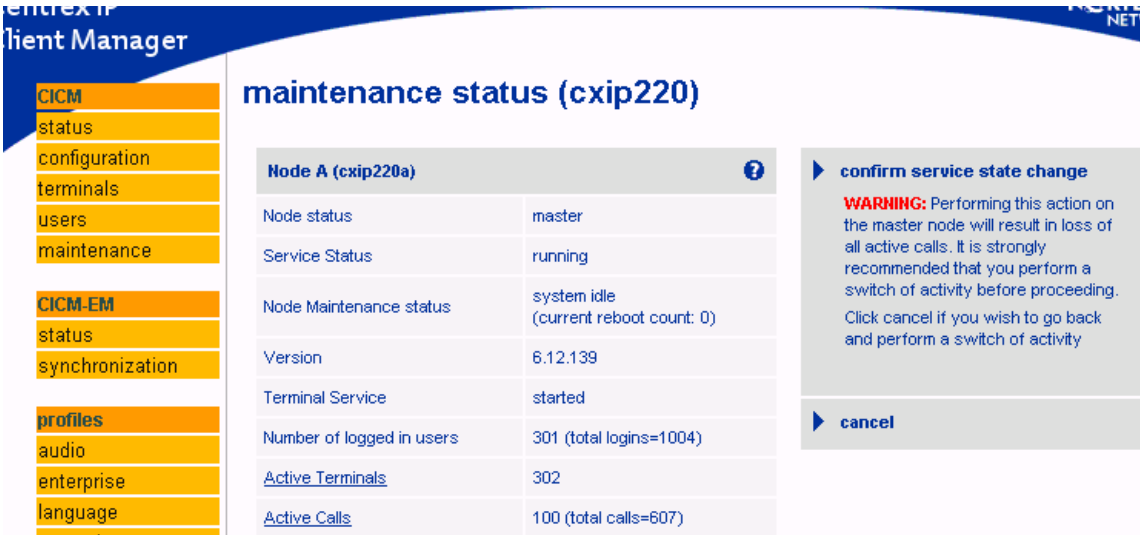


d In the **node A service control** or **node B service control** option on the right menu:

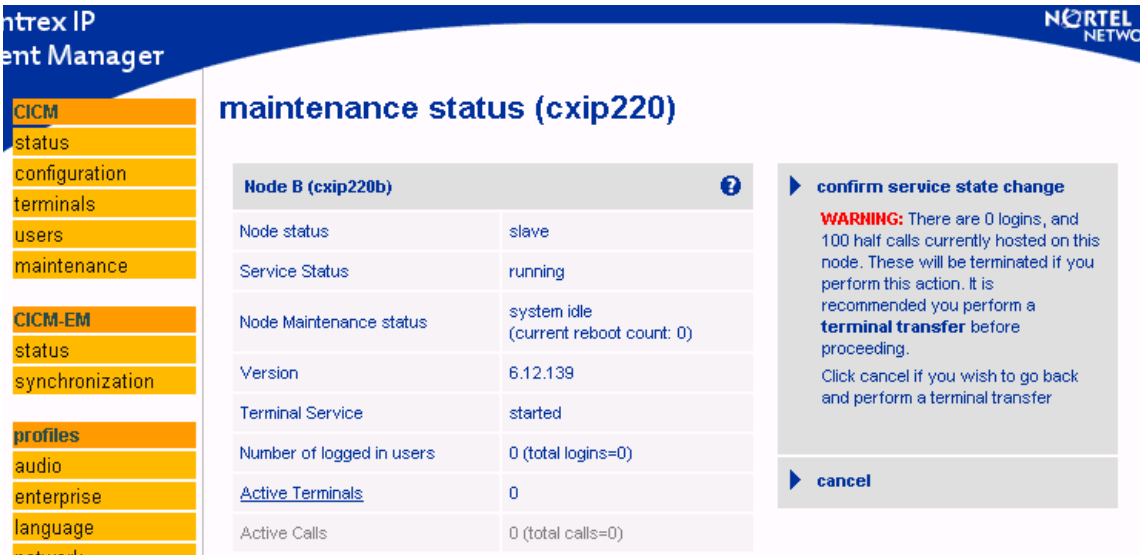
i Select **Stop** from the drop-down menu for the node to add the card(s) to,

ii Then click on the **node A service control** or **node B service control** option (corresponding to the node to add the card to).

*Response: The **maintenance status <cicm_name>** page displays the **confirm service status change** panel on the right.*
*If the node is the Master node, the **Warning** note will remind you to perform a Switch of Activity first, as in the illustration below. This switch of activity was done in step 6.*



*If the node is the Slave node, the **Warning** note will remind you to perform a terminal transfer before proceeding, as illustrated in the following illustration. This terminal transfer was done in step 3.*



e If a terminal transfer (step 3) or switch of activity (step 6) was not performed as required, then click on the **cancel** text and return to the **maintenance status <cicm_name>** page to complete these step(s).

f After verifying that the terminal transfer and switch of activity was performed as required:
on the **maintenance status <cicm_name>** page,

click on the **confirm service state change** text above the warning to stop the node service.

*Response: The CICM service is stopped on the selected node, and the node **Service Status** field changes to **stopped**.*

8 Change the hardware configuration in the EM configuration wizard, as follows:

a On the Element Manager Web pages, select **configuration** from the **CICM** section of the left navigation bar.

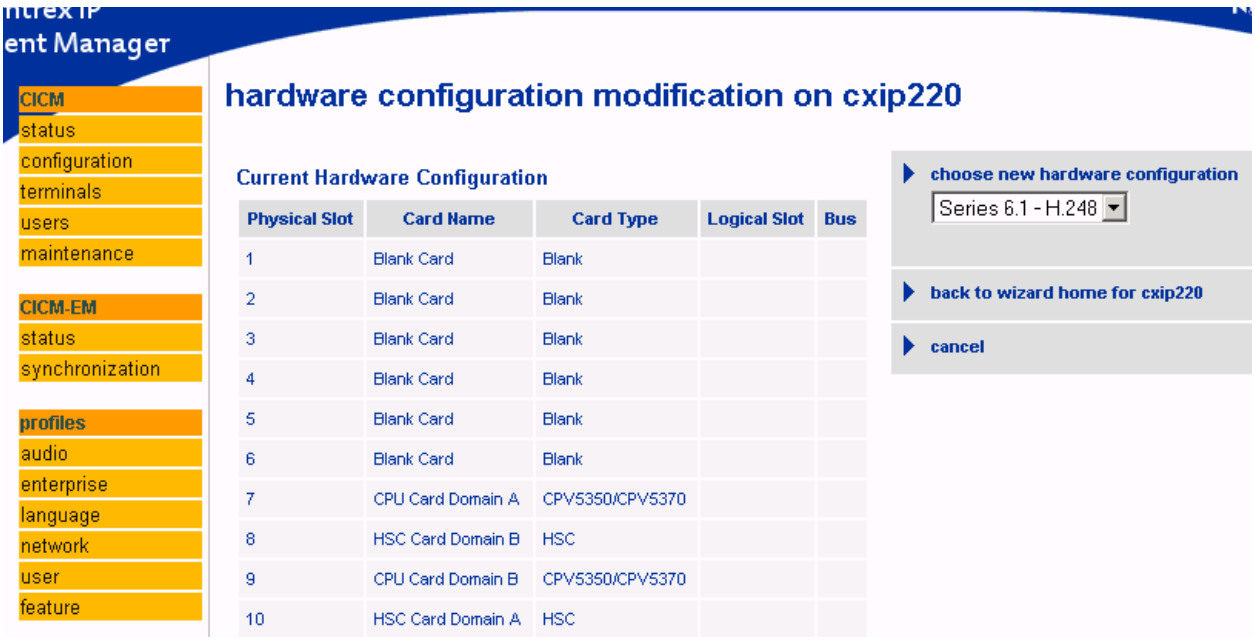
*Response: The **configuration wizard home** page opens.*

b Select the CICM to run the configuration wizard on from the drop-down menu on the right, then click on the **run the configuration wizard on the following CICM** text.

*Response: The **configuration wizard home on <cicm_name>** page opens.*

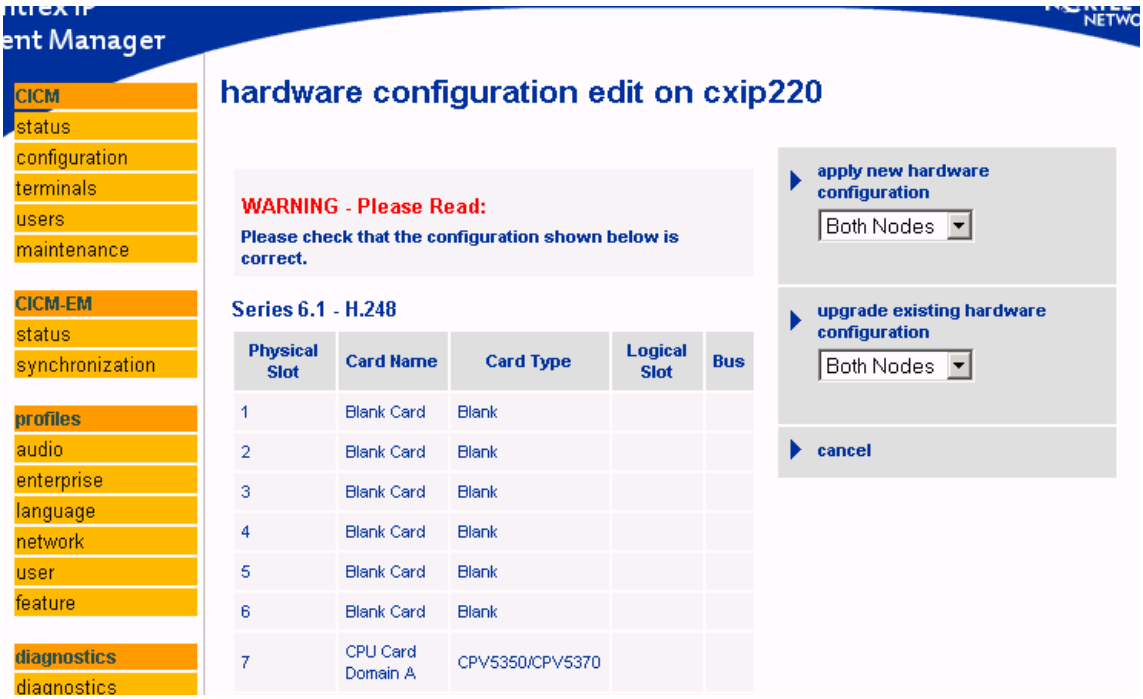
c Click on **Hardware Configuration** option from the **Configuration Wizard** window panel in the center.

*Response: The **hardware configuration modification on <cicm_name>** page opens.*



d From the **choose new hardware configuration** drop-down menu on the right, choose the configuration you desire to have (after you will add the new card(s) in the steps below), then click on the **choose new hardware configuration** text.

*Response: A **hardware configuration edit on cicm_name** confirmation page opens. A warning is displayed.*



e From the **upgrade existing hardware configuration** drop-down menu on the right, select:

- **Both nodes**
  If a symmetrical hardware upgrade is being made, with the same number of new cards being added to both nodes.
- **Node A Only**
  If the hardware upgrade is being made only to node A.
- **Node B Only**
  If the hardware upgrade is being made only to node B.

Then click on the **upgrade existing hardware configuration** text.

Response: The configuration is upgraded and a confirmation window is displayed.

9 Complete the CICM configuration. All items on the **Configuration wizard home on <cicm_name>** page (i.e. Global Settings, Hardware Configuration, Virtual Media Gateways) must be in **configured** status before proceeding to the next step, as shown in the following figure.

Note: After the hardware configuration has been upgraded in the previous step, the status of the CICM configuration items

changes to **unconfigured**, as indicated on the **Configuration wizard home on <cicm_name>** page. If any item is in **unconfigured** status, the CICM node will not be able to be put into service.

Assure that the CICM configuration is complete (all items in **configured** status) as follows:

a Verify that Global Settings is shown as **configured**.

b Verify that Hardware Configuration is shown as **configured**. This configuration is automatically datafilled upon selecting a hardware configuration.

c Verify that the **Virtual media Gateways** item is shown as **configured**.

10 Shut down the node where the card(s) will be added, as follows:

a Open a Telnet session to the CICM node where the card(s) will be added, and type the following on the command line:

C:\>**shutdown /l /t:0**

Then press **Enter**

Response: A request for confirmation is displayed.

b To confirm the shutdown of the node, type

y

then press **Enter**

*Response: There is no confirmation from the Telnet session since the node is shut down. The shutdown status of the node can be checked by viewing the **<cicm_name> CICM status** Web page.*

11 Power down the node where the card(s) will be added, as follows:

Note: To minimize the level of impact on customer service, it is recommended to power down only the node of the CICM where the card(s) will be added. The mate node of the CICM will take over the workload in order to maintain services to all customers hosted on the CICM.

a Open a Telnet session to the CICM mate node (i.e. the node that is mate to the node where the card(s) will be added), and type the following on the command line:

C:\>**powerdown**

Then press **Enter**

Response (example when the mate node is A):

```
This CPU is in domain A
Continuing will power off domain B processor
resulting in the loss of all CentrexIP
service on that node.

Press ENTER to continue, Ctrl-C to abort.
```

b To continue to powerdown the node, press **Enter**

Response:

```
Powering down domain B processor
Powerdown complete.
```

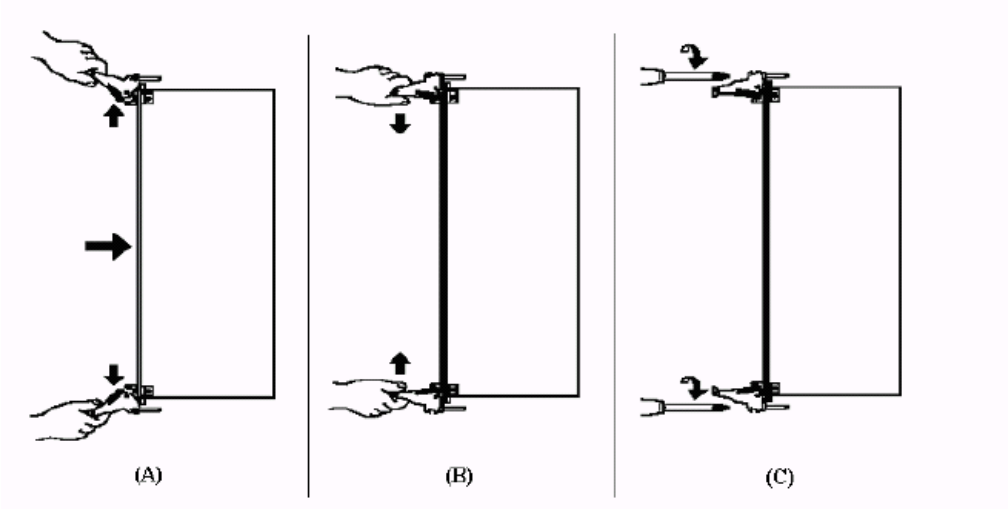
12 Verify that the node is powered down by checking the following on the LED indicator panel (on the physical device) *(In our example, the LED panel for node B)*:

a All LEDs on the CPU card (labeled CPV5370) are off, including the PWR LED.

b The PWR LED located on the CPU transition module located at the back panel of the CICM is off.

13 Locate the slot number where the card(s) will be added, and remove the blanking plates from the slot positions that the card(s) will be placed into.

14 Insert the new card into the CICM chassis, as illustrated in the following figure.



a Holding the ejector levers outwards, carefully insert the new card into the designated slot of the CICM.

b After the card is inserted, push the ejector lever towards each other. The card will be seated onto the back plane connectors by performing this action.

c Tighten the screws to secure the card to the designated slot.

d Repeat this step for all cards that need to be added. For each CPU card, add the associated Transition Module into the back of the chassis as well.

15 Locate and connect the proper cable for each port on the new cards.

16 Power up the node as follows:

a Establish a Telnet session to the CICM mate node.

b On the command line of the mate node, type the following:

C:\>**powerup**

Then press **Enter**

Response (example for mate node A):

```
Powerup: Power up the other domain processor.

This CPU is in domain A
Powering up on domain B processor
Powerup completed.
```

Note: The service of the node will be recovered in 15-20 minutes.

17 *(REQUIRED ONLY IF STEP 4 WAS COMPLETED)*

If the VMG unit was busied in step 4, 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.

18 Verify that the service has started correctly.
On the **<cicm_name> CICM status** page of the Element Manager Web pages, scroll down the **node modification on <cicm_name>** section to the **Service State** field, and verify that it is in the **running** state.

19 Check that the configuration is correct, and update the configuration if required.

20 Repeat this procedure for the opposite node.
If all the configuration steps for both nodes have been done when configuring the first node, then those configuration steps can be skipped for the second node.

21 This procedure is complete.

