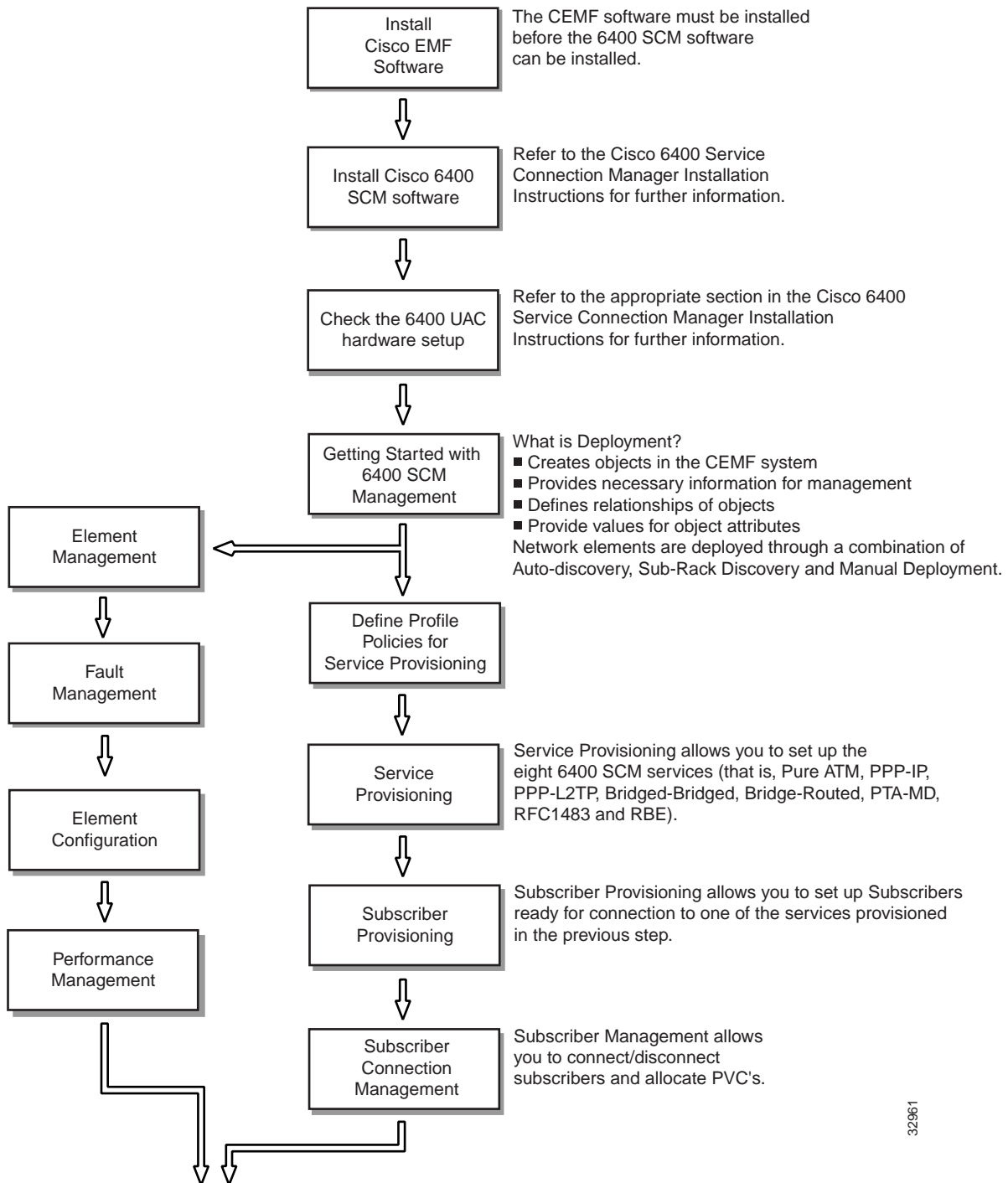# Getting Started

Introduction

Figure 3-1 details the tasks you should perform and the order they should be performed to get started with the 6400 SCM.

Figure 3-1   Typical Workflow

| | Install Cisco EMF Software | The CEMF software must be installed before the 6400 SCM software can be installed. |

Install Cisco EMF Software — The CEMF software must be installed before the 6400 SCM software can be installed.

Install Cisco 6400 SCM software — Refer to the Cisco 6400 Service Connection Manager Installation Instructions for further information.

Check the 6400 UAC hardware setup — Refer to the appropriate section in the Cisco 6400 Service Connection Manager Installation Instructions for further information.

Getting Started with 6400 SCM Management — What is Deployment?
- Creates objects in the CEMF system
- Provides necessary information for management
- Defines relationships of objects
- Provide values for object attributes

Network elements are deployed through a combination of Auto-discovery, Sub-Rack Discovery and Manual Deployment.

Element Management

Fault Management

Element Configuration

Performance Management

Define Profile Policies for Service Provisioning

Service Provisioning — Service Provisioning allows you to set up the eight 6400 SCM services (that is, Pure ATM, PPP-IP, PPP-L2TP, Bridged-Bridged, Bridge-Routed, PTA-MD, RFC1483 and RBE).

Subscriber Provisioning — Subscriber Provisioning allows you to set up Subscribers ready for connection to one of the services provisioned in the previous step.

Subscriber Connection Management — Subscriber Management allows you to connect/disconnect subscribers and allocate PVC's.

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Installing the Cisco EMF Software

Refer to the CEMF Installation Instructions for further information.

Installing the 6400 SCM Software

Refer to the *Cisco 6400 Service Connection Manager Installation Instructions* for further information.

Checking the 6400 UAC Hardware Setup

Before you can use the Cisco 6400 SCM to manage the Cisco 6400 UAC you have to carry out some base configuration changes, using IOS, which may need to be run on your Cisco 6400 UAC.

Refer to the appropriate section in the "*Cisco 6400 Service Connection Manager Installation Guide*" for further information.

Getting Started with 6400 UAC Management

Deployment

Deployment informs the Cisco 6400 SCM of the presence of supported network elements.

The Cisco 6400 SCM objects can be deployed manually or automatically by launching a wizard-style deployment tool that enables you to automatically deploy a network modeled in CEMF. The deployment wizard deploys objects in CEMF in advance of actual deployment on a Cisco 6400 SCM in the field.

The Cisco 6400 SCM detects the presence of previously deployed network equipment as soon as that equipment becomes operational.

The Cisco 6400 SCM can auto-discover equipment as an alternative to manual deployment.

Deployment is one of the first stages of the provisioning process. Deployment is occasionally referred to as Provisioning. It is also referred to as Pre-Provisioning - meaning that part of the network hardware setup before the service is actually provisioned. Once objects are deployed, the initial state of all objects will be normal.

Pre-Provisioning is the process of reserving and configuring a space in the system for network equipment, which have not yet been physically slotted into the system rack. It refers to a particular state of the device or object. If an object/device is in pre-provisioned state, it means that though the device/object is not present, the system has been pre-provisioned to hold an object of similar type. Thus the line cards in the 6400 SCM can exist in a state known as pre-provisioned and the 6400 SCM does not monitor their status. When the cards are placed in the physical equipment, it is possible to change the line card from the pre-provisioned state to the commissioned state by clicking on the **Commission** button.

Note The initial state of all objects after deployment is **Decommissioned**.


You can also create Site, Chassis, NPR, NSP and Line Card objects manually from the **MapViewer** or **Object Manager** applications. This is what we term Manual Deployment.

Deployment Process Outline

Producing a manageable 6400 UAC in CEMF is a two stage process, as shown in Figure 3-2.

The first stage is deployment at Chassis level. The Cisco 6400 Chassis could be manually deployed OR alternatively the Cisco 6400 Chassis could be Auto discovered. The second stage of the deployment process is to deploy the SCM objects at Sub-chassis level. This involves Auto discovering the sub chassis and/or deploying additional sub chassis objects manually.

Figure 3-2   Deployment Process
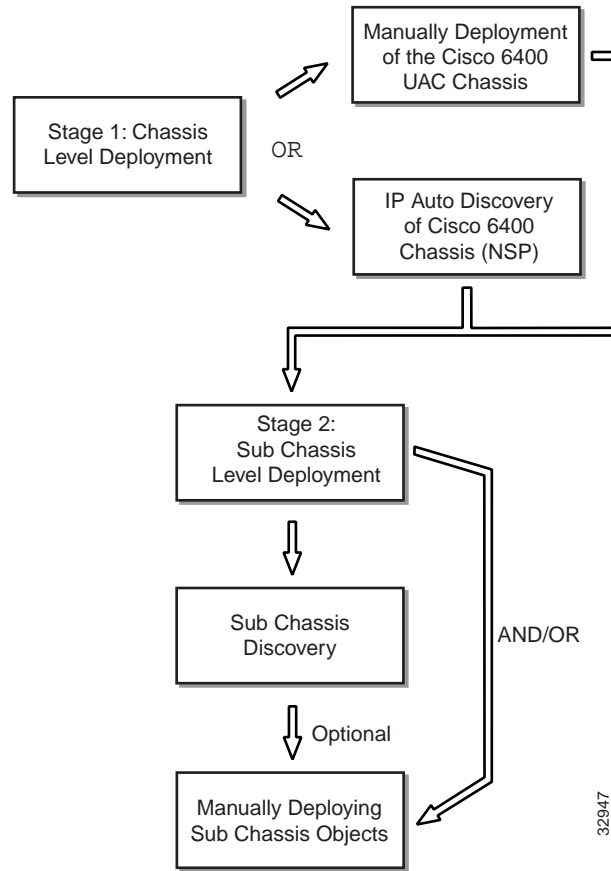
Deployment Launch Points

Table 3-1 lists the various objects that can be deployed and the objects from which they can be launched. For example, you could deploy a **Chassis and NSP** or a **Site** from a **Manager** object.

Table 3-1   Deployment Launch Points

Task	Launch Point			
	Manager	**Site**	**Chassis**	**NSP**
Deploy a Site	Yes	Yes	No	No
Deploy a Chassis and associated NSP	Yes	Yes	No	No
Deploy an NRP	No	No	No	Yes
Deploy a Line Card	No	No	No	Yes

Manual Deployment of the Cisco 6400 UAC Chassis

Deploying a 6400 Chassis and NSP

A 6400 Chassis and NSP card must be deployed under a site.

Two node switch processor cards (NSPs) can be deployed in either or both of two dedicated slots (0A and 0B) in the middle of the Cisco 6400 chassis. One NSP is required for system operation, the second NSP provides fault tolerance.

To deploy a 6400 Chassis and NSP, proceed as follows:

Step 1   Place the cursor over a relevant object in the a network map, a relevant object in the object manager or by using an object pick list on an open element manager window, refer to the Table 3-1 on page 3-4 for information to determine which objects you can deploy from.

Note   You must deploy each 6400 chassis into a unique site or bay. For example, if you wish to deploy two 6400 UACs within a given location (that is, a City or a Central Office), then create two bays or sites within the upper level site.

Step 2   Click and hold down the right mouse button.

Step 3   Select the **Deploy**, **Cisco 6400 UAC, Chassis and NSP** option.

The Deployment Selector window appears.

Figure 3-3   Deployment Selector Window
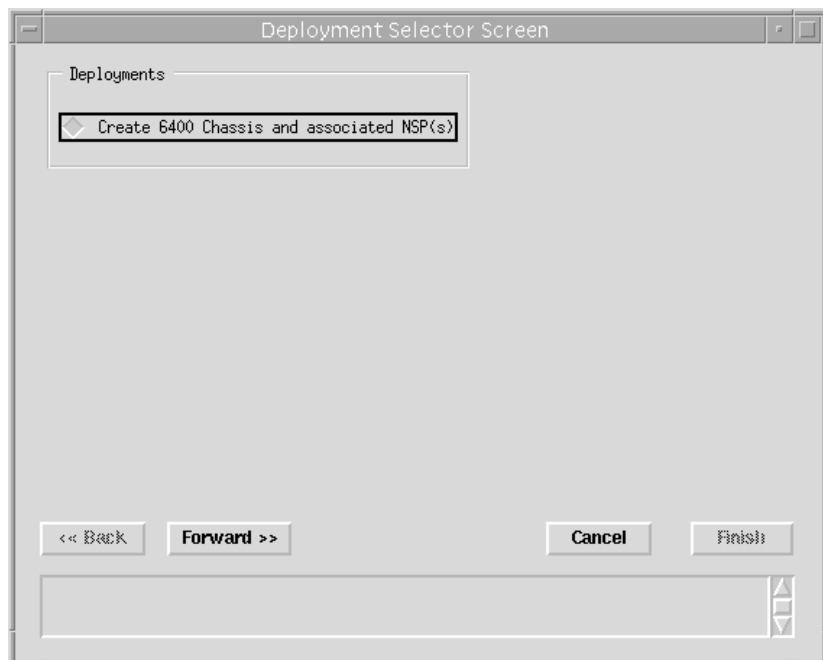
Step 4   Click **Forward**.

Step 5   Enter the **Number of chassis:** you wish to deploy.

You can only deploy one chassis under a site.

Step 6 Click **Forward**.

Step 7 Enter the **Chassis name**.

Step 8 Click **Forward**.

Step 9 Enter an **NSP Name**, **IP Address** (for the primary NSP), **SNMP Read Community**, the **SNMP Write Community** and select an **SNMP Version**.

Step 10 Click **Forward**.

Step 11 Repeat steps 7 to 9 for the **Number of chassis** entered in step 5.

Step 12 The **Deployment Summary** details appear in the Deployment Summary Screen.

Note If the **Deployment Summary** information is wrong, click **Back** until the screen showing the incorrect information is displayed. Correct the information and click **Forward** until the correct **Deployment Summary** information re-appears.

Step 13 Click **Finish** (if the **Deployment Summary** information is correct).

Step 14 Click **Dismiss** to complete the deployment and close the Deployment Summary Screen. This creates the relevant number of objects in CEMF.

IP Auto Discovery of the Cisco 6400 Chassis

Auto Discovery is used to discover an existing network and can save time and effort. The network is interrogated for IP and SNMP devices and an object created for each new device discovered.

Auto discovery is also used to identify new SCM chassis and specifically the NSP card within each chassis.

The **Auto Discovery** application has three mechanisms for discovering devices:

1 IP

ICMP pings are used to find devices in a given IP address range. This finds which IP device exists, but does not discover what kind of device it is.

2 SNMP

SNMP get requests are used to find devices in a given IP address range. Several SNMP community strings can be used so that equipment with different community strings can be discovered in the same discovery session. The SNMP information returned by devices is used to work out what kind of device has been found.

3 IP and SNMP

ICMP pings are used to find devices and then SNMP requests are used to interrogate the devices to find out what kind of device they are. This is the default mechanism.

Auto Discovery can discover devices on more than one subnetwork by using multi-hop discovery. It can be scheduled to run at preset times, the CEMF User Guide details how to set the schedules.

An option is available to specify the physical location that discovered objects will be created under.

Figure 3-4   Before Sub-Chassis Discovery
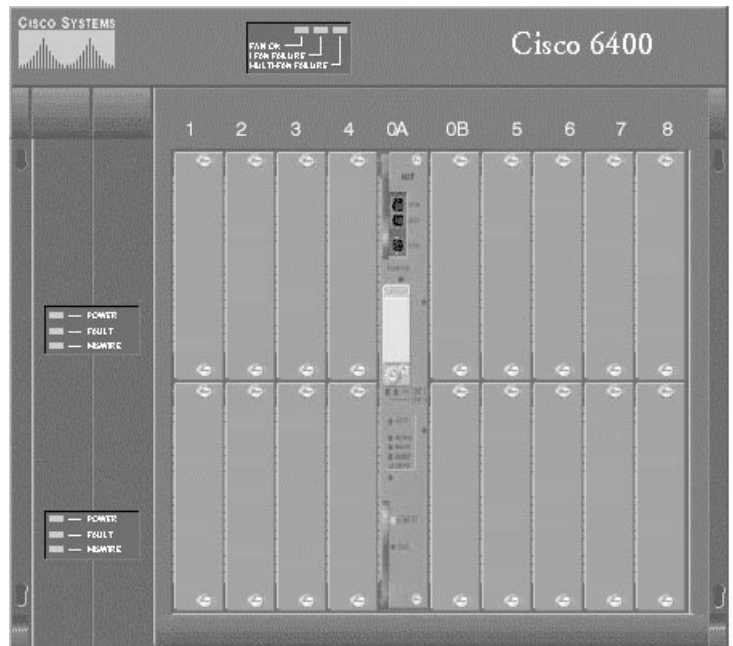
Once the 6400 UAC is detected, an object representing a Chassis is created and placed under the Site from which auto discovery was launched. A map of the chassis is also created, as shown above.

Note When Auto Discovery is launched from a site object the process automatically populates the physical containment field. If Auto Discovery is selected from any other object you will have to choose the physical containment you require.

Commissioning an NSP

Commissioning an NSP within a chassis causes sub-chassis discovery to begin. This task discovers all line cards installed in the chassis of the NSP being commissioned.

Note Any objects that are pre-provisioned but not in the chassis are shown as errored. Any objects that are discovered but not pre-provisioned are created as new objects.
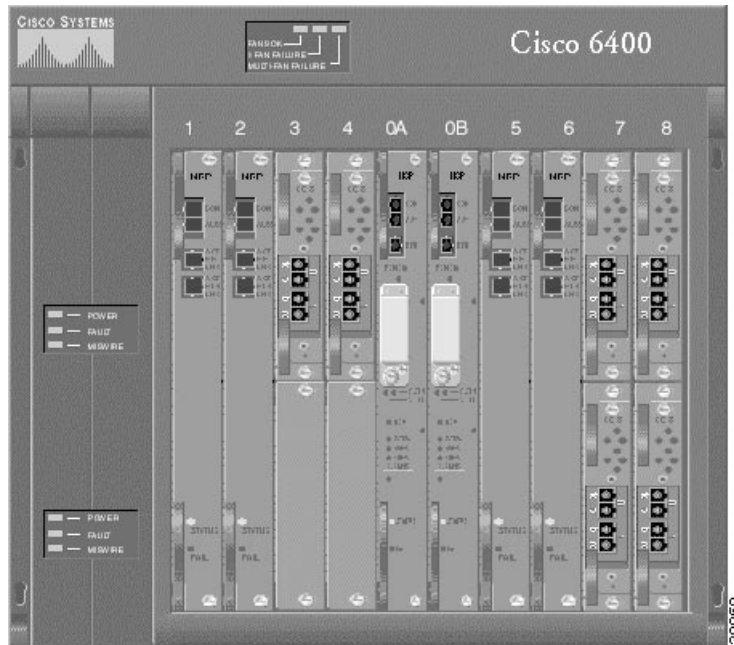

Step 1   Select the **Cisco 6400 UAC**, **Manage**, **NSP** option from a relevant network map, a relevant object in the object manager or by using an object pick list on an open Element Manager window. Refer to Table 4-1 on page 4-1 for information on which maps nodes or objects allow you to launch the Cisco 6400 NSP Management window.

Step 2   Click the **Configuration** tab.

> **Note** Before you commission an NSP, you must set the CLI passwords in the **NSP Configuration** tab. If you do not set this password, any sub-chassis discovered NRPs are left in the decommissioned state and their IP address is not set.
> NRP passwords must also be set before using the Service/Subscriber options on the 6400 SCM.

Step 3 Click **Commission**.

The sub-chassis discovery task initiates and all cards that were not pre-provisioned are discovered and added. The NSP and all related cards are now in a commissioned state.

Decommissioning an NSP

Step 1 Select the **Cisco 6400 UAC**, **Manage**, **NSP** option from a relevant network map, a relevant object in the object manager or by using an object pick list on an open Element Manager window. Refer to Table 4-1 on page 4-1 for information on which maps nodes or objects allow you to launch the Cisco 6400 NSP Management window.

Step 2 Click the **Configuration** tab.

Step 3 Click **Decommission**.

The NSP and all related cards are now decommissioned.

Figure 3-5   After Sub-Chassis Discovery

Manual Deployment of Sub-Chassis Objects

Deploying an NRP Card and Port

Node route processor cards (NRPs) can be installed in any one or all of the eight chassis numbered 1 to 8. Figure 1-2 shows three NRPs installed in chassis slots 1, 2, 5 and 6.

To deploy an NRP and Port, proceed as follows:

Step 1   Place the cursor over a relevant object in the a network map, a relevant object in the object manager or by using an object pick list on an open element manager window, refer to the Table 3-1 on page 3-4 for information to determine which objects you can deploy from.

Step 2   Click and hold down the right mouse button.

Step 3   Select the **Deploy**, **Cisco 6400 UAC, NRP and Port** option.

The Deployment Selector window appears.

Figure 3-6   Deployment Selector Window
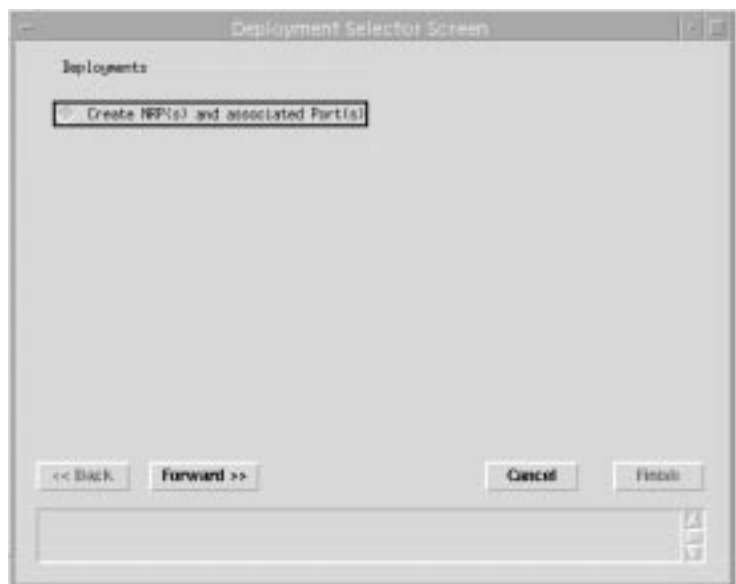
Step 4   Click **Forward**.

Step 5   Enter the **Number of NRPs** you wish to deploy.

Step 6   Click **Forward**.

Step 7   Enter a **Slot Number**, **NRP Name**, **NRP IP Address**, **NRP SNMP Read Community**, **NRP SNMP Write Community** and select an **NRP SNMP Version** in the **NRP Details** frame.

Step 8   Click **Forward**.

The Object Details Screen appears.

Step 9   Enter an **NSP IP Address**, **NSP SNMP Read Community**, **NSP SNMP Write Community** and an **NSP SNMP Version** in the **Attributes** frame.

Step 10   Click **Forward**.

Step 11   Repeat steps 7 to 10 for the **Number of NRPs** entered in step 5.

Step 12   The **Deployment Summary** details appear in the Deployment Summary Screen.

Note   If the **Deployment Summary** information is wrong, click **Back** until the screen showing the incorrect information is displayed. Correct the information and click **Forward** until the correct **Deployment Summary** information re-appears.

Step 13   Click **Finish** (if the **Deployment Summary** information is correct).

**Step 14**   Click **Dismiss** to complete the deployment and close the Deployment Summary Screen.

Deploying an OC3 Line Card and Ports

Half-height node line cards (NLCs) can be installed in any one or all of the eight slots numbered 1 to 8. One or two NLCs can be installed in each slot, for a maximum of 16 per chassis.

To deploy an OC3 Line Card and Ports, proceed as follows:

Step 1 Place the cursor over a relevant object in the a network map, a relevant object in the object manager or by using an object pick list on an open element manager window, refer to the Table 3-1 on page 3-4 for information to determine which objects you can deploy from.

Step 2 Click and hold down the right mouse button.

Step 3 Select the **Deploy**, **Cisco 6400 UAC, OC3 Line Card and Ports** option.

The Deployment Selector window appears.

Figure 3-7   **Deployment Selector Window**
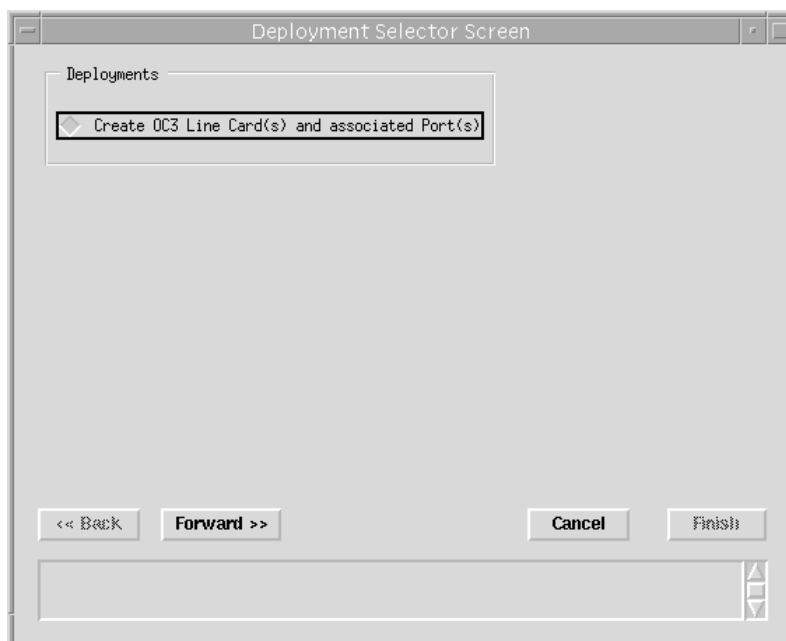
Step 4 Click **Forward**.

Step 5 Enter the **Number of OC3 Line Cards** you wish to deploy.

Step 6 Click **Forward**.

Step 7 Enter a **Slot Number**, **Sub-Slot Number**, **OC3 Line Card Name**, **NSP IP Address**, **NSP SNMP Read Community**, **NSP SNMP Write Community** and select an **NSP SNMP Version** in the **Attributes** frame.

Step 8 Click **Forward**.

Step 9 Repeat steps 6 to 8 for the **Number of OC3 Line Cards** entered in step 5.

Step 10 The **Deployment Summary** details appear in the Deployment Summary Screen.

> **Note** If the **Deployment Summary** information is wrong, click **Back** until the screen
> showing the incorrect information is displayed. Correct the information and click
> **Forward** until the correct **Deployment Summary** information re-appears.

Step 11 Click **Finish** (if the **Deployment Summary** information is correct).

Step 12 Click **Dismiss** to complete the deployment and close the Deployment Summary Screen.

Deploying a DS3 Line Card and Ports

Half-height node line cards (NLCs) can be installed in any one or all of the eight slots numbered 1
to 8. One or two NLCs can be installed in each slot, for a maximum of 16 per chassis.

To deploy an DS3 Line Card and Ports, proceed as follows:

Step 1 Place the cursor over a relevant object in the a network map, a relevant object in the object
manager or by using an object pick list on an open element manager window, refer to the
Table 3-1 on page 3-4 for information to determine which objects you can deploy from.

Step 2 Click and hold down the right mouse button.

Step 3 Select the **Deploy**, **Cisco 6400 UAC, DS3 Line Card and Ports** option.

The Deployment Selector window appears.

Figure 3-8   Deployment Selector Window
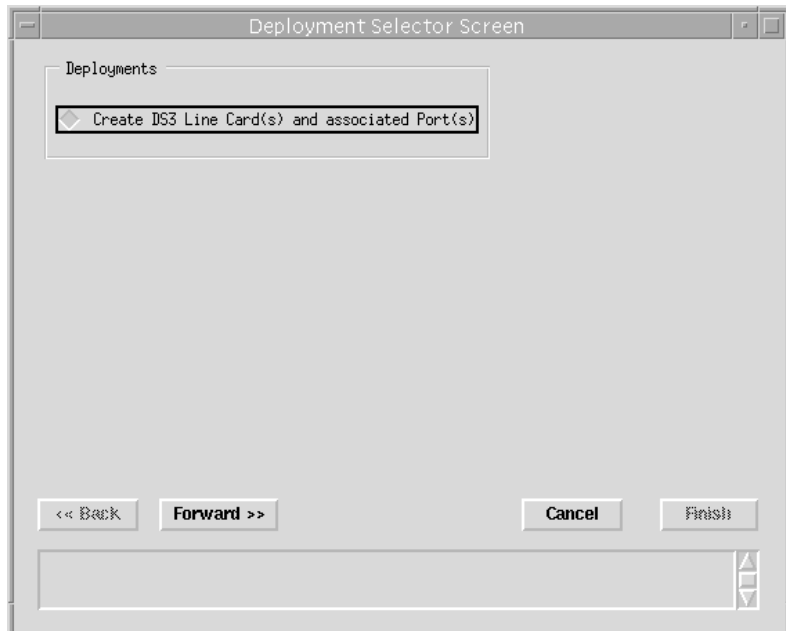
Step 4 Click **Forward**.

Step 5 Enter the **Number of DS3 Line Cards** you wish to deploy.

Step 6 Click **Forward**.

Step 7   Enter a **Slot Number**, **Sub-Slot Number**, **DS3 Line Card Name**, **NSP IP Address**, **NSP SNMP Read Community**, **NSP SNMP Write Community** and select an **NSP SNMP Version** in the **Attributes** frame.

Step 8   Click **Forward**.

Step 9   Repeat steps 6 to 8 for the **Number of DS3 Line Cards** entered in step 5.

Step 10   The **Deployment Summary** details appear in the Deployment Summary Screen.

Note   If the **Deployment Summary** information is wrong, click **Back** until the screen showing the incorrect information is displayed. Correct the information and click **Forward** until the correct **Deployment Summary** information re-appears.

Step 11   Click **Finish** (if the **Deployment Summary** information is correct).

Step 12   Click **Dismiss** to complete the deployment and close the Deployment Summary Screen.