CHAPTER 5

Setting Up CMNM Security

Introduction to CMNM Security

CMNM provides user access control which allows a system administrator to control what different users are able to do. Each user has a different login name and password, with a specific set of privileges within the system.

A standard administrator user (admin) is available by default. The administrator user has access to all features at all times. The administrator user may not be edited other than to change the password.

CMNM requires every user to have a login ID and password. Before users can start the application, they must specify their login ID and enter the correct password. An administrator account is provided to allow for creating, modifying, resetting, and deleting user accounts.

Within CMNM, access to features can be restricted on the basis of the user's access level to a subset (or group) of these features.

For example, administration of particular managed objects should be performed only by operators who are responsible for that particular site or for a region in which that site belongs. However, these operators may also require visibility of objects outside their own area of control.

The basic building blocks used to control user access are described below.

User Groups

CMNM user accounts can be collected by an administrator into groups. These user groups can be used to model user roles. A typical setup might involve a user group for system administrators, for network fault detail users, and for operators to manage a given site.

It is on the basis of these user groups that CMNM applies access control. The CMNM administrator configures access control by assigning access specifications to the relevant user groups.

Feature Lists

All features offered to a user are grouped together into feature lists. The benefit of feature lists is that it is easy to give access to a related set of features by simply choosing a feature list instead of having to assign features individually. Any given feature may appear in more than one feature list.

The feature lists available in CMNM are described in Table 5-1.

Note In CMNM, features are preassigned to feature lists and cannot be modified.

Table 5-1 Feature Lists in CMNM

Feature List	Description
AccessManagement	Set up users, user groups, assign passwords, and define access parameters.
AutoDiscovery	Examine the network for IP and SNMP devices.
BAM-Accounts	View BAMS account information.
BAM-Properties	View BAMS property information.
BAM-Provisioning	Deploy BAMS.
BAM-States	Start and stop BAMS polling and comission and decommission BAMS.
BAM-Tools	Use Telnet.
ChangePassword	Change user password.
Deployment	Deploy sites, objects, and networks manually and using a seed file.
Events-Clear-Acknowledge	Clear and acknowledge events.
Events-View	View events.
GenericConfigApplication	Work with object configuration.
Help	Get help information.
LAN-Switch-Accounts	View LAN switch account information.
LAN-Switch-Properties	View LAN switch property information.
LAN-Switch-Provisioning	Deploy LAN switch.
LAN-Switch-States	Start and stop LAN switch polling and comission and decommission LAN switch.
LAN-Switch-Tools	Start CiscoView and use Telnet.
Launchpad	Use the CEMF launchpad.
MGC-Host-Accounts	View Cisco MGC host account information.
MGC-Host-Connectivity	View Cisco MGC host connectivity information.
MGC-Host-Performance	Monitor Cisco MGC host performance statistics.
MGC-Host-Properties	View Cisco MGC host property information.
MGC-Host-Provisioning	Deploy Cisco MGC host.
MGC-Host-States	Start and stop Cisco MGC host polling and comission and decommission Cisco MGC host.
MGC-Host-Tools	Start Cisco Media Gateway Controller Manager (CMM), use the MGC Toolbar, and use Xterm.
MGW-Network-Performance	Monitor media gateway network performance.
MGW-Network-Provisioning	Deploy media gateway network.
MGW-Network-States	Start and stop media gateway network polling and comission and decommission media gateway network.
MGW-Network-Tools	Start the Voice Services Provisioning Tool (VSPT).
MGW-Network-Trap-Forwarding	Define trap forwarding destinations.

Table 5-1 Feature Lists in CMNM

Feature List	Description
MGX-8260-Accounts	View Cisco MGX 8260 account information.
MGX-8260-Properties	View Cisco MGX 8260 property information.
MGX-8260-Provisioning	Deploy Cisco MGX 8260.
MGX-8260-States	Start and stop Cisco MGX 8260 polling and comission and decommission Cisco MGX 8260.
MGX-8260-Tools	Start Web Viewer.
ObjectGroups-Edit	Edit object groups.
ObjectGroups-View	View object groups.
PerformanceManager	Work with Performance Manager.
SLT-Accounts	View Cisco SLT account information.
SLT-Properties	View Cisco SLT property information.
SLT-Provisioning	Deploy Cisco SLT.
SLT-States	Start and stop Cisco SLT polling and comission and decommission Cisco SLT.
SLT-Tools	Start CiscoView and use Telnet.
Viewer-Edit	Edit the Map Viewer.
Viewer-View	Use the Map Viewer.

Access Specifications

Access specifications connect together the user groups, the features that can be invoked by a group, and the objects upon which these features can be invoked.

A number of access specifications are provided by default with the CMNM. More access specifications can be built at the discretion of the system administrator.

Each access specification may include the following components:

- Feature lists—Lists the CMNM features which the users in this group have access to. A feature list can appear in more than one access specification.
- User groups—CMNM user accounts can be collected by an administrator into groups. These user groups can be used to model user roles. It is on the basis of these user groups that CMNM applies access control.
- A permission level—For example, read-only, read-write, and so on.
- An optional object group—Where an object group is supplied, the users in the group have access to the features specified by this access specification only for those objects contained within the group. Where no object group is supplied, the access specification provides the specified access to features for all objects. This object group could be used to grant the administrative user group for a site read-write access to the objects on that site, while another access specification would be used for read-only access for non-administrative users.

Setting Up Accounts

CMNM allows the administrator to associate privileges with user accounts. For example, regular users can be prevented from performing certain management functions, while more technically sophisticated users can be given full management privileges.

CMNM provides the following security features:

- User login IDs and alphanumeric passwords
- Per-user privileges and control of administrative functions
- Administrative control of accounts and password resets
- Attack alerts (the connection is closed after three unsuccessful login attempts)

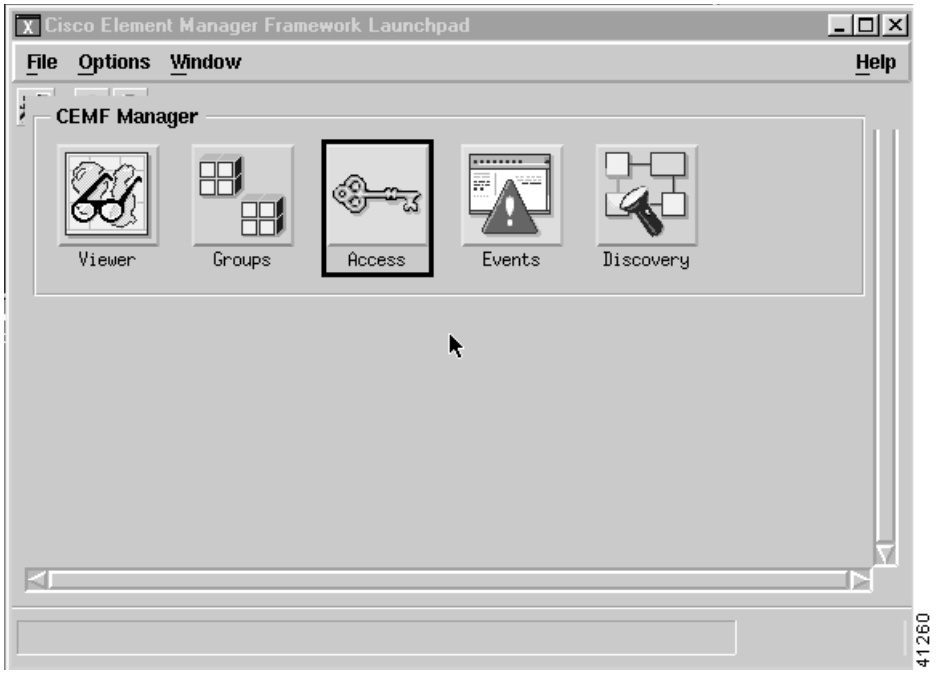
Setting Up New Accounts

You must set up new accounts for all users. You may also define user groups.

To create a new account for a user and assign a password:

Step 1 Click the **Access** icon on the CEMF Launchpad, as shown in Figure 5-1.

Figure 5-1 CEMF Launchpad Screen



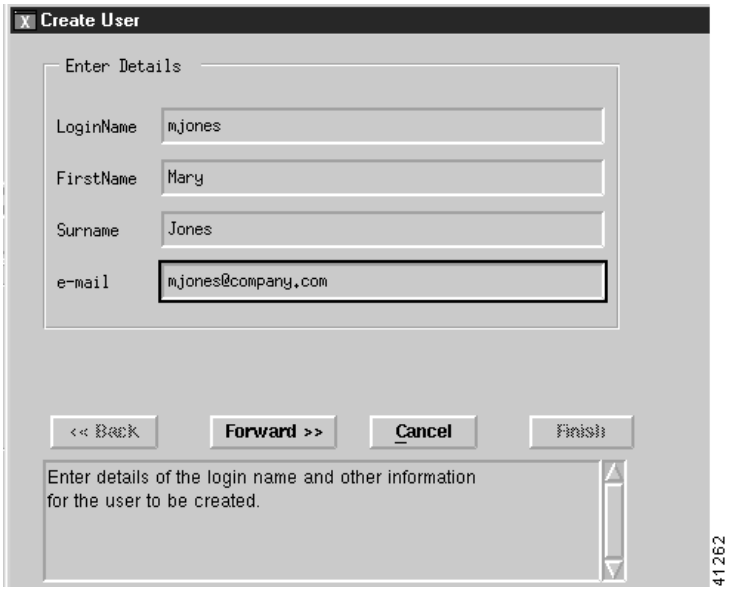
You see the Access Manager screen.

Step 2 From the Access Manager screen, select **Edit**, **Create**, then **User** as shown in Figure 5-2.

Figure 5-2 Access Manager Screen—Edit->Create>User Option

You see the screen in Figure 5-3.

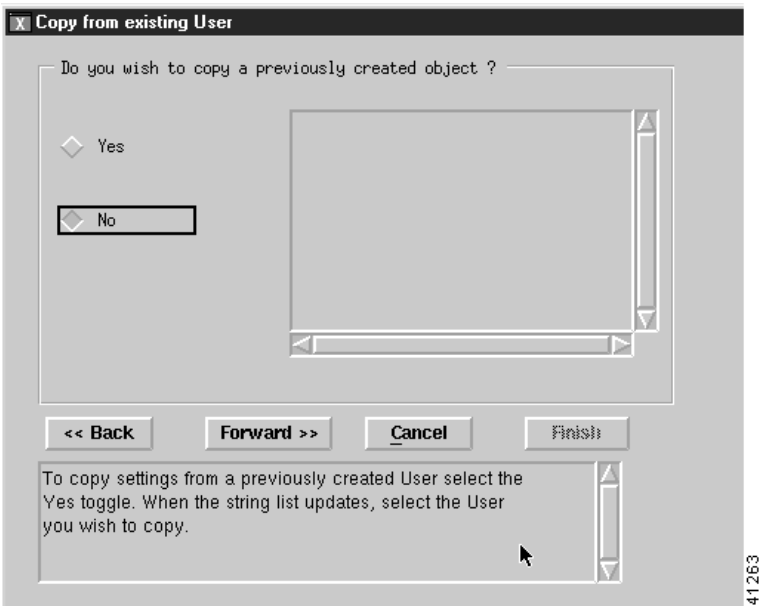
Figure 5-3 Create User Screen



Step 3 Enter the requested information and then click **Forward**.

You see the screen in Figure 5-4.

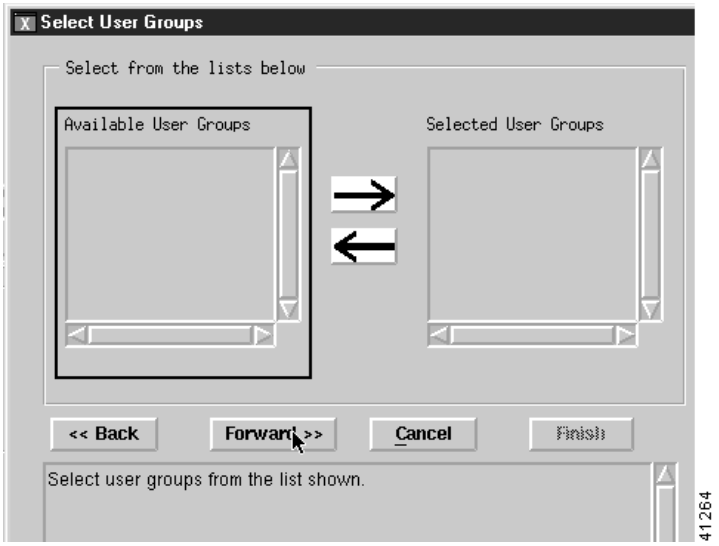
Figure 5-4 Copy from existing User Screen



Step 4 To use an existing user as a template for the user you are adding, click **Yes**, select the user you want to copy, then click **Forward**. If you do not want to copy an existing user or none exists, click **No** then click **Forward**.

You see the screen in Figure 5-5.

Figure 5-5 Select User Groups Screen

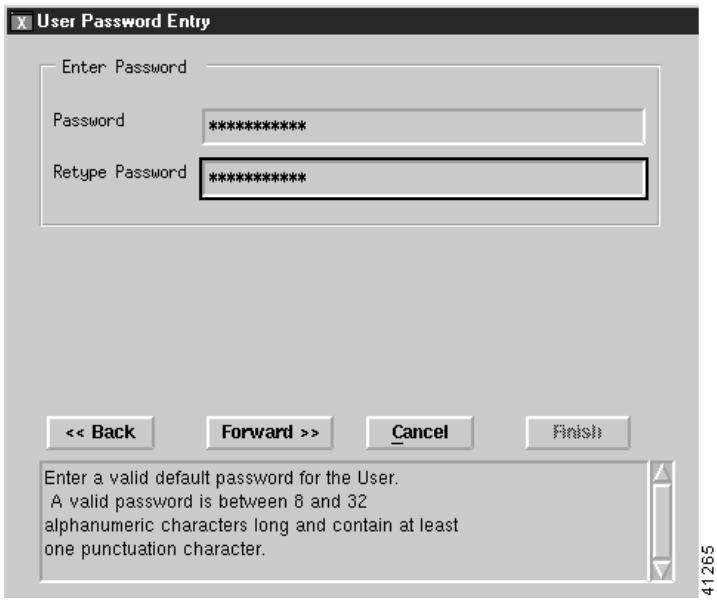


Step 5 Select a user group, click an arrow to move it to the select user groups list, and click **Forward**.

If no user groups are defined at this time, you may define a user group later and assign the user to it at any time. For more information on user groups, see the “” section on page 5-8.

You see the screen in Figure 5-6.

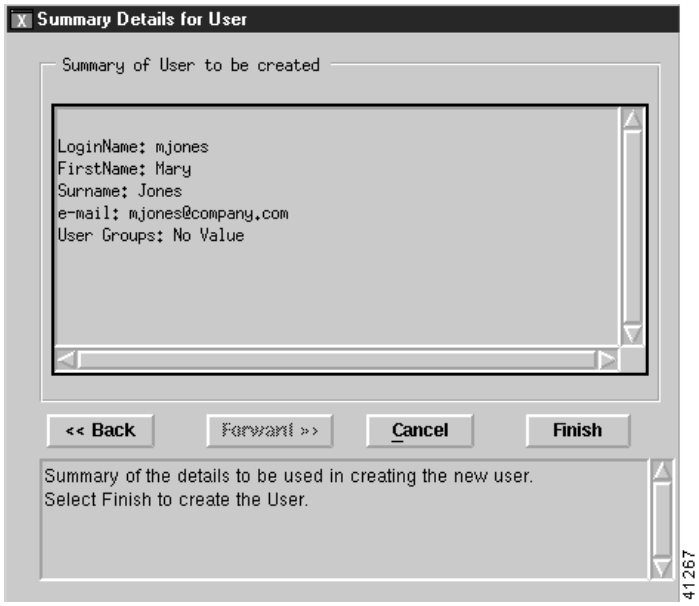
Figure 5-6 User Password Entry Screen



Step 6 Enter a password for the user and confirm it. Passwords must contain 8 to 32 alphanumeric characters and at least one punctuation character such as _, %, (, or ^. Click **Forward**.

If you typed a valid password, you see the screen in Figure 5-7. If you typed an invalid password, you see Figure 5-6 again with an error message. Reenter a valid password.

Figure 5-7 Summary Details for User Screen



Step 7 To make changes, click **Back** and enter the corrected information. To add the user, click **Finish**.

You see the screen in Figure 5-8 listing the defined users.

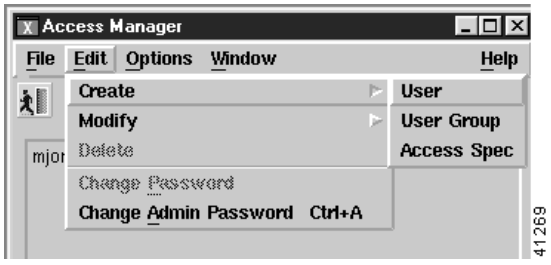
Figure 5-8 Access Manager Screen—List of Users

Creating User Groups

Users can be divided into groups by creating user groups.

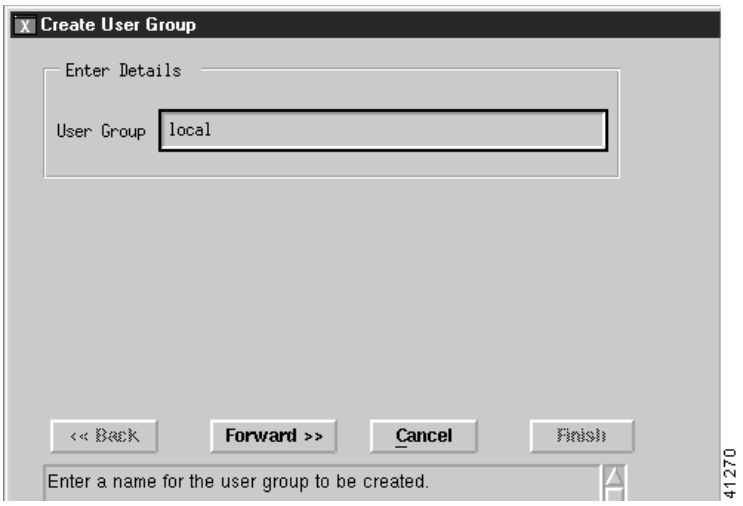
Step 1 From the Access Manager screen, select **Edit**, **Create**, then **User Group** as shown in Figure 5-9.

Figure 5-9 Access Manager Screen—Edit->Create->User Group Option



You see the screen in Figure 5-10.

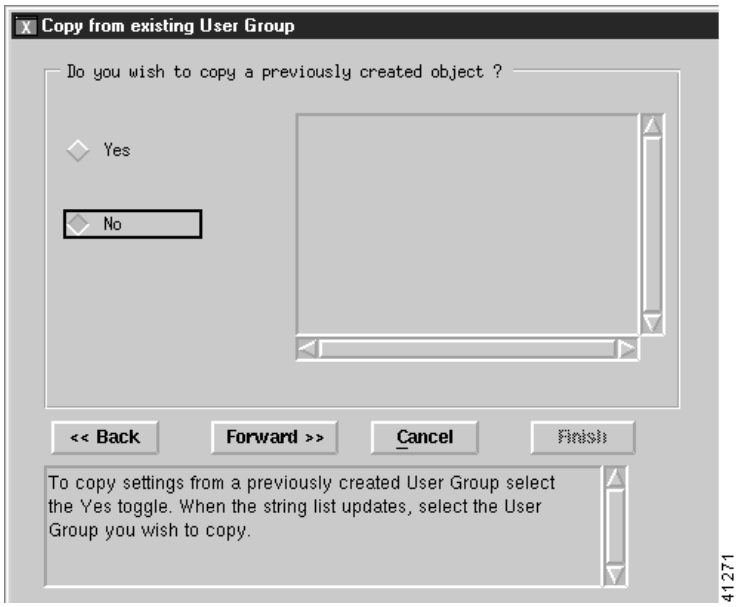
Figure 5-10 Create User Group Screen



Step 2 Type the name of a user group in the field and click **Forward**.

Step 3 You see the screen in Figure 5-11.

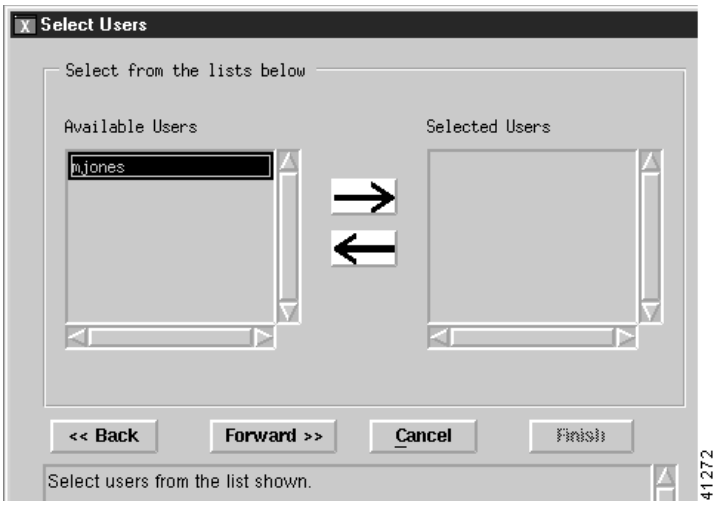
Figure 5-11 Copy from existing User Group Screen



Step 4 If you:

- Want to use an existing user group as a template for the user group you are adding, click **Yes**, select the user group you want to copy, then click **Forward**. You see the screen in Figure 5-14.
- Do not want to copy an existing user group or none exists, click **No**, then click **Forward**. You see the screen in Figure 5-12.

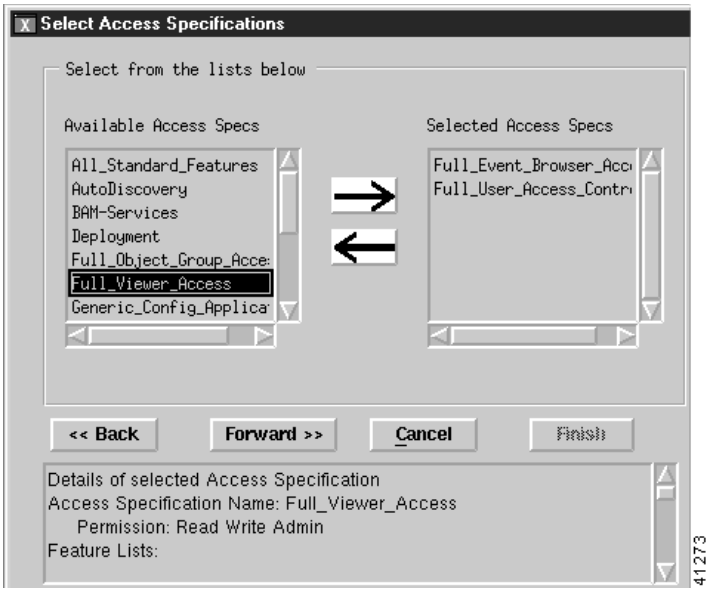
Figure 5-12 Select Users Screen



Step 5 Select each user you want in the new group and click the arrow to move each to the selected users list. When you are finished, click **Forward**.

You see the screen in Figure 5-13.

Figure 5-13 Select Access Specifications Screen



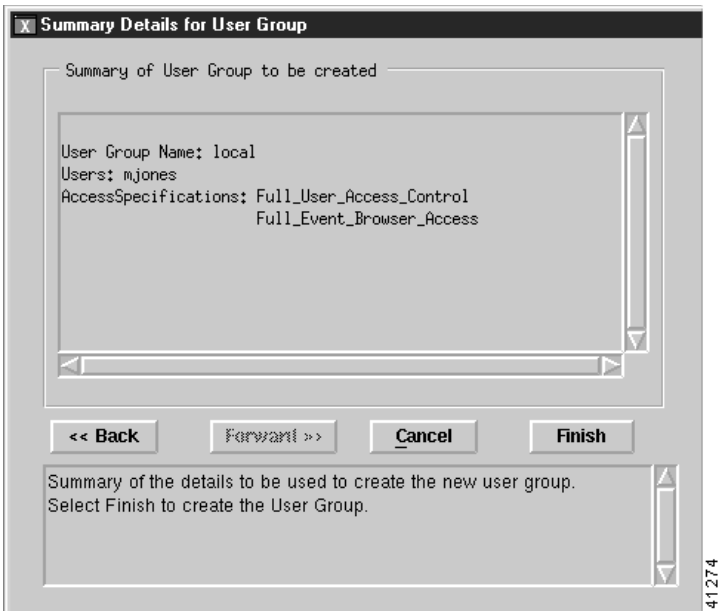
Step 6 Select each access specification you want for the new group and click the arrow to move each to the selected acess specification list. When you are finished, click **Forward**.

Caution Giving a user group full access allows each user in the user group to add or delete other users and to change specifications for all other users.

For more information about access specfications, see the “Creating New Access Specifications” section on page 5-11.

You see the screen in Figure 5-14.

Figure 5-14 Summary Details for User Group Screen



Step 7 To make changes, click **Back** and enter the corrected information. To add the user group, click **Finish**.

Creating New Access Specifications

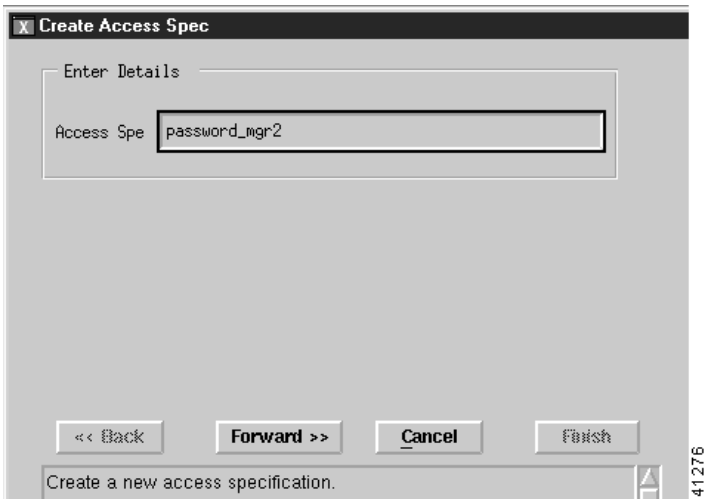
To create new access specifications:

Step 1 From the Access Manager screen, select **Edit**, **Create**, then **Access Spec**, as shown in Figure 5-15.

Figure 5-15 Access Manager Screen—Edit->Create->Access Spec Option

You see the screen in Figure 5-16.

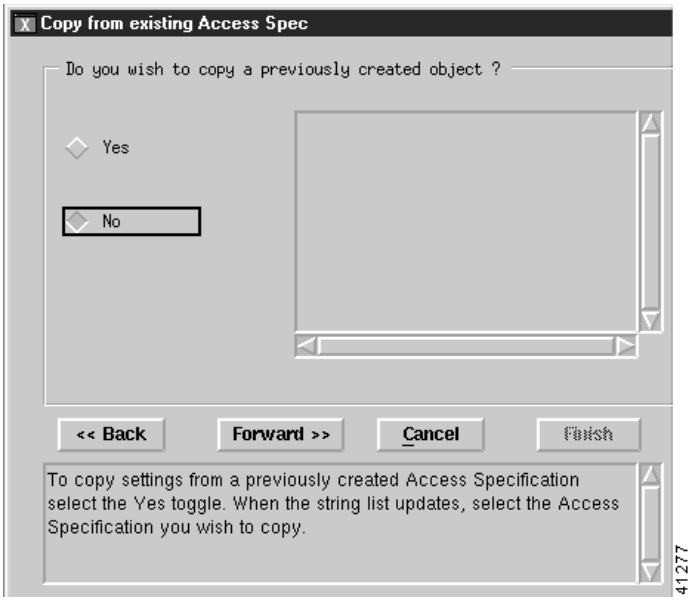
Figure 5-16 Create Access Spec Screen



Step 2 Type the name of a new access specification and click **Forward**.

You see the screen in Figure 5-17.

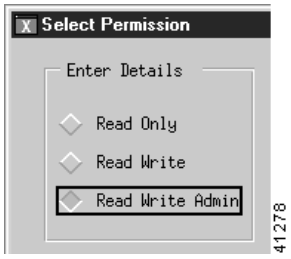
Figure 5-17 Copy from existing Access Spec Screen



Step 3 If you:

- Want to use an existing access specification as a template for the access specification you are adding, click **Yes**, select the access specification you want to copy, then click **Forward**. You see the screen in Figure 5-22.
- Do not want to copy an existing access specification or none exists, click **No**, then click **Forward**. You see the screen in Figure 5-18.

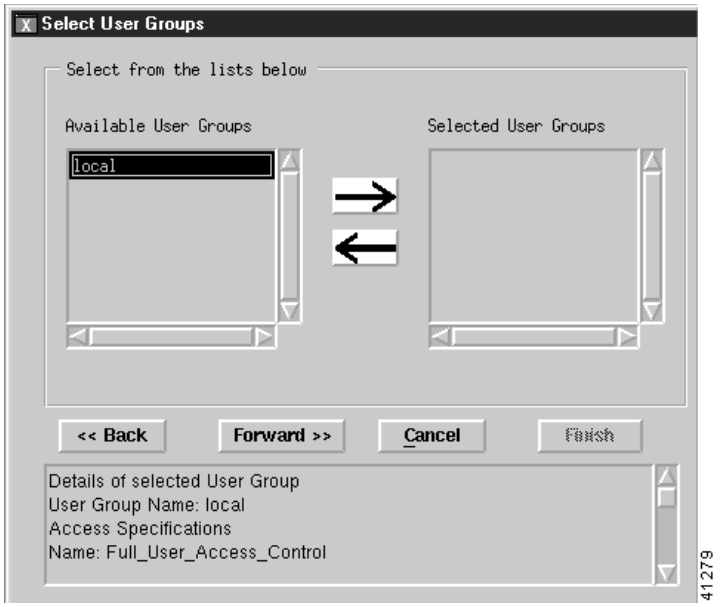
Figure 5-18 Select Permission Screen



Step 4 Select the permission level desired and click **Forward**.

You see the screen in Figure 5-19.

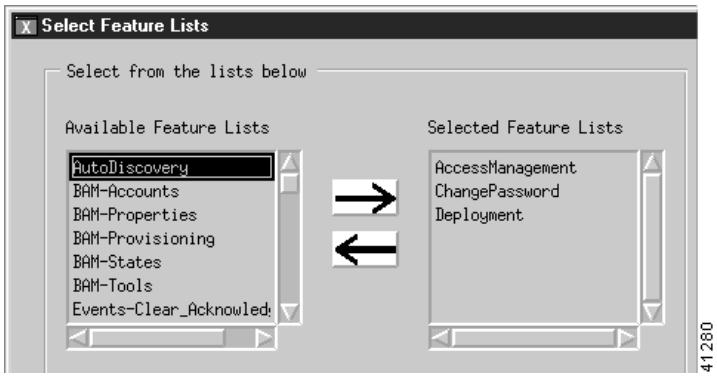
Figure 5-19 Select User Groups Screen



Step 5 Select a user group from the available user groups list and click the right arrow to move it to the selected user groups list. Click **Forward**.

You see the screen in Figure 5-20.

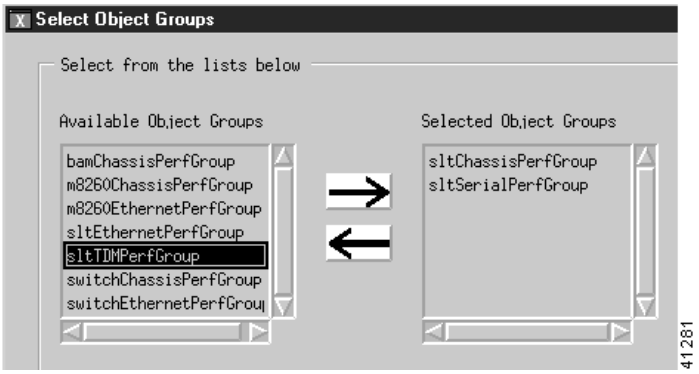
Figure 5-20 Select Feature Lists Screen



Step 6 Select each feature you want for the new access specification and click the right arrow to move each to the selected feature list. When you are finished, click **Forward**.

You see the screen in Figure 5-21.

Figure 5-21 Select Object Groups Screen



Step 7 Select each object group you want for the new access specification and click the right arrow to move each to the selected object groups list. When you are finished, click **Forward**.

You see the screen in Figure 5-22.

Figure 5-22 Summary Details for Access Specification Screen

Step 8 To make changes, click **Back** and enter the corrected information. To add the access specification, click **Finish**.

Creating Typical Types of Users

Table 5-2 summarizes how you would create three typical users.

Table 5-2 Creating Typical Users

To Create This Type of Account:	Peform These Steps:
Administrator	Using the instructions in the "Setting Up New Accounts" section on page 5-4, create a new account and create the user by copying the existing administrator template.
Operator with read permission that can deploy and launch tools	Using the instructions in the "Creating New Access Specifications" section on page 5-11, create a new access specification with the following features: Using the instructions in the "Creating User Groups" section on page 5-8, create a new user group with the access specification you just created. Then using the instructions in the "Setting Up New Accounts" section on page 5-4, create a new account, create the user, and assign them to the group you just created.
Operator with read-only permission	Using the instructions in the "Creating New Access Specifications" section on page 5-11, create a new access specification with the following features: Using the instructions in the "Creating User Groups" section on page 5-8, create a new user group with the access specification you just created. Then using the instructions in the "Setting Up New Accounts" section on page 5-4, create a new account, create the user, and assign them to the group you just created.

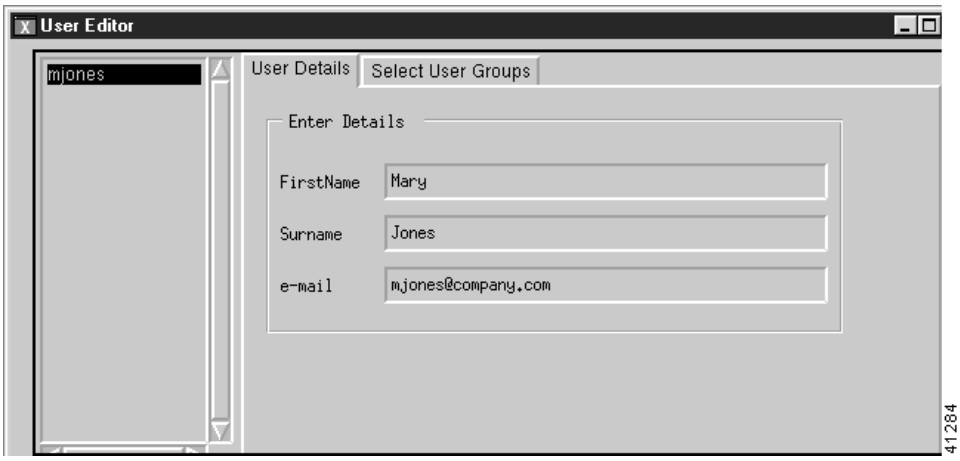
Modifying Users

To modify a user:

Step 1 From the Access Manager screen, select **Edit**, **Modify**, then **User**.

You see the screen in Figure 5-23.

Figure 5-23 User Editor Screen



Step 2 Select a user from the list and change any information in the fields. To change the user groups that the user belongs to, click the **Select User Groups** tab and make any changes.

Step 3 Click **Apply**. To cancel changes, click **Revert**.

Modifying User Groups

To modify a user group:

Step 1 From the Access Manager screen, select **Edit**, **Modify**, then **User Group**.

You see the screen in Figure 5-24.

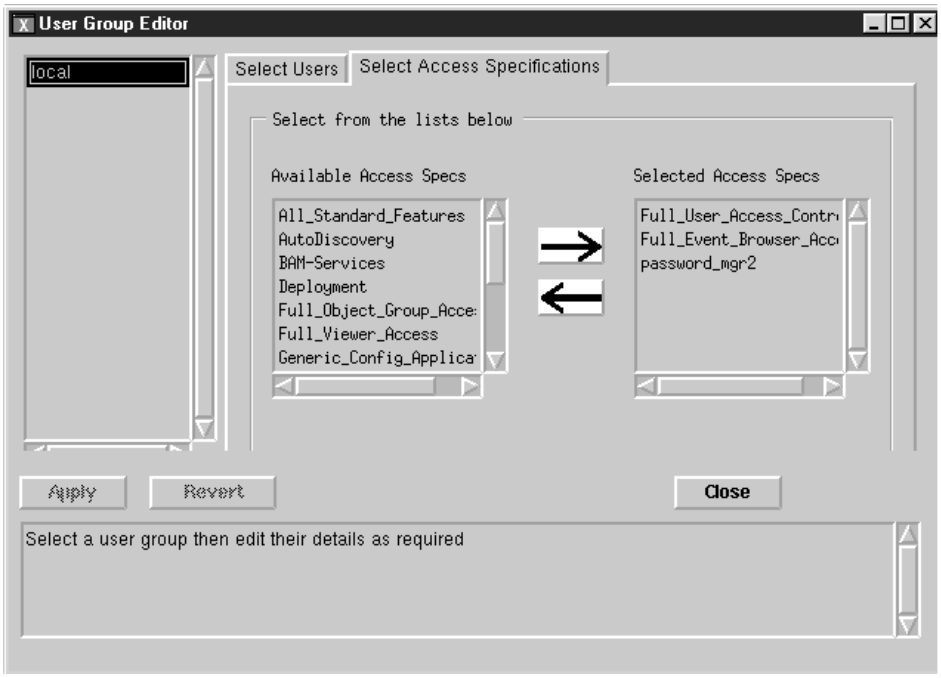
Figure 5-24 User Group Editor Screen—Select Users Tab

Step 2 Select a user group from the list of available user groups. Select users and click the arrows to add or remove users from the group.

Step 3 To modify access specifications for the user group, click the **Select Access Specifications** tab.

You see the screen in Figure 5-25.

Figure 5-25 User Group Editor Screen—Select Access Specifications Tab



Step 4 Select access specifications and click the arrows to add or remove access specifications from the group.

Step 5 Click **Apply**. To cancel changes, click **Revert**.

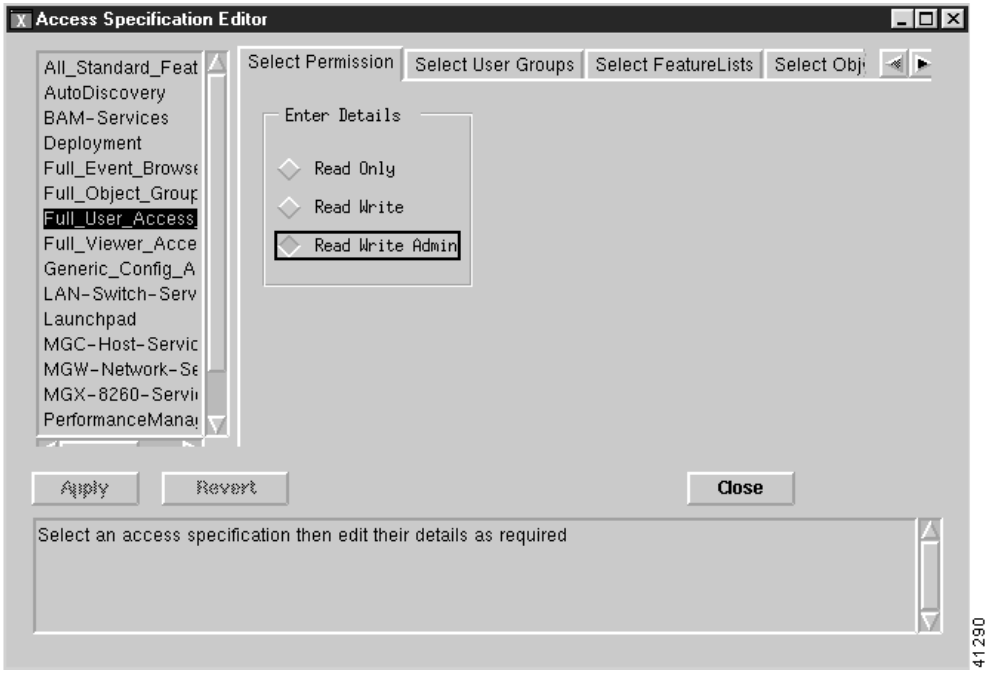
Modifying Access Specifications

To modify an access specification:

Step 1 From the Access Manager screen, select **Edit**, **Modify**, then **Access Spec**.

Step 2 You see the screen in Figure 5-26.

Figure 5-26 Access Specification Editor Screen—Select Permission Tab

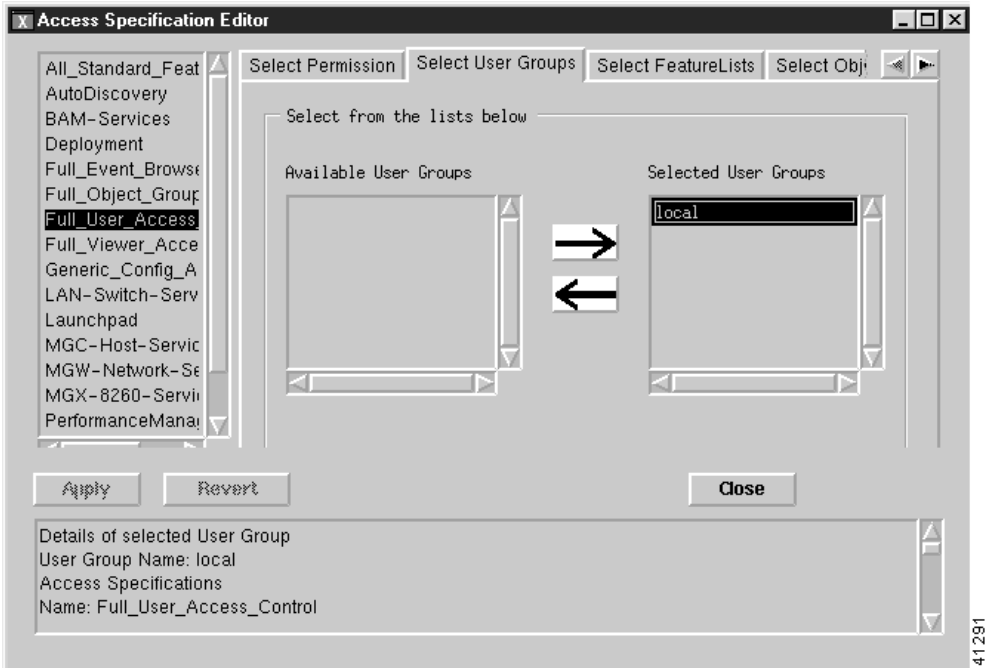


Step 3 Edit the permission if necessary.

Step 4 Click the **Select User Groups** tab.

Step 5 You see the screen in Figure 5-27.

Figure 5-27 Access Specification Editor Screen—Select User Groups Tab

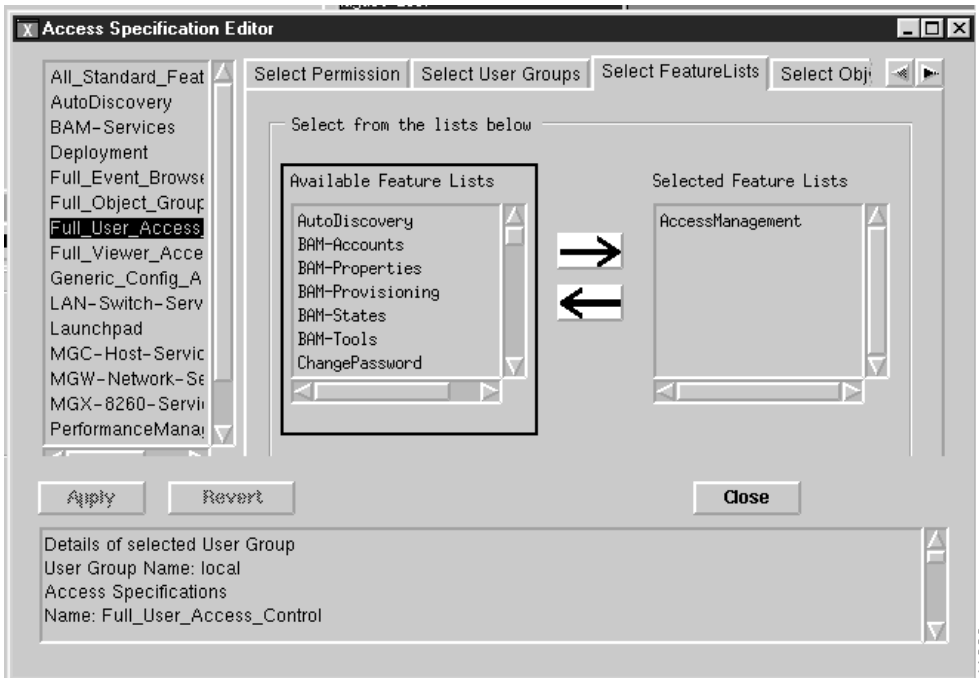


Step 6 Select user groups and click the arrows to add or remove users groups from the access specification.

Step 7 Click the **Select Feature Lists** tab.

You see the screen in Figure 5-28.

Figure 5-28 Access Specification Editor Screen—Select Feature Lists Tab

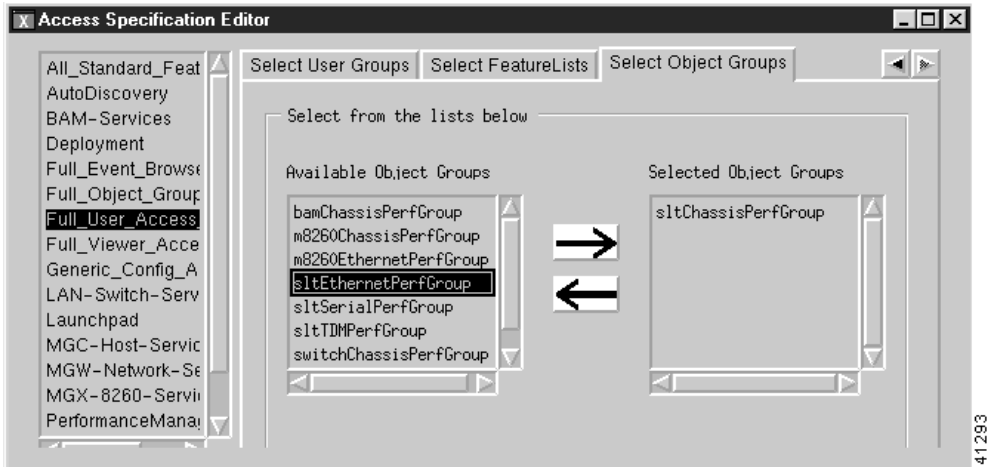


Step 8 Select features and click the arrows to add or remove features from the access specification.

Step 9 Click the **Select Object Groups** tab.

Step 10 You see the screen in Figure 5-29.

Figure 5-29 Access Specification Editor Screen—Select Object Groups Tab



Step 11 Select object groups and click the arrows to add or remove object groups from the access specification.

Step 12 When you are finished, click **Apply**. To discard changes, click **Revert**. Click **Close**.

Changing the Admininstrative Password

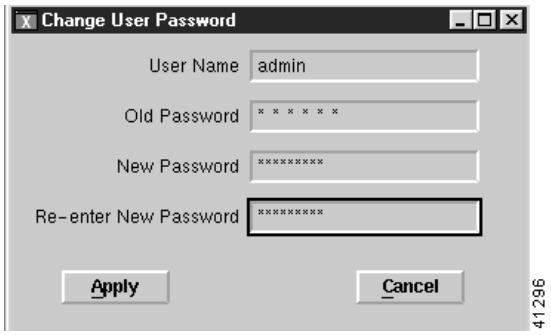
To change the administrative password:

Step 1 From the Access Manager screen, select **Edit**, then **Change Admin Password**, as shown in Figure 5-30.

Figure 5-30 Access Manager Screen—Edit>Change Admin Password Option

You see the screen in Figure 5-31.

Figure 5-31 Change User Password Screen



Step 2 Change the password and click **Apply**.