Setting Up the Service

Cisco IP Solution Center Traffic Engineering Management (ISC TEM) offers the license structure described in Chapter 1, "Introduction to ISC TEM." The ISC TEM specific installation steps are described in this chapter whereas the general installation procedure for Cisco IP Solutions Center (ISC) is described in *Cisco IP Solution Center Installation Guide, 4.0*.

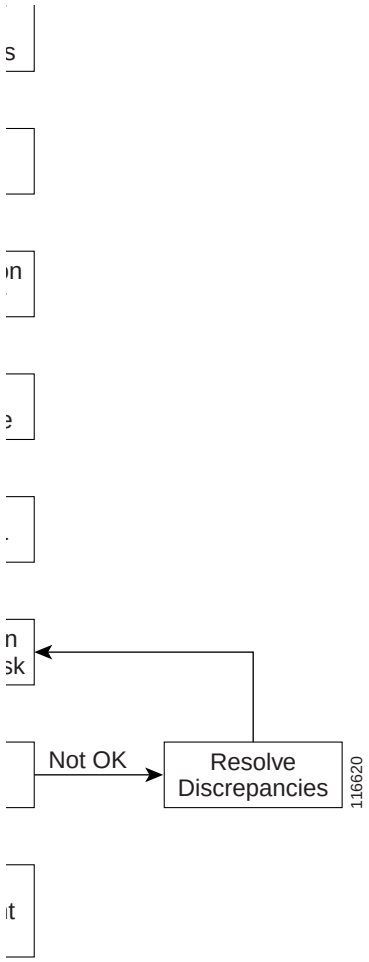
This chapter contains the following sections:

Bootstrapping Process Overview

The bootstrapping process sets up key parameters that enable the system to collect TE network information and subsequently deploy TE configurations on the chosen network.

An overview of the bootstrapping process is provided in Figure 2-1.

Figure 2-1 Bootstrapping Process



The process includes the following steps:

Step 1 **Set up new user and install license keys**—To run the TEM blade of ISC, it is necessary to create a new user and install license keys. These keys will enable the user to view and manage the TE tunnels and resources using ISC. (see ISC TEM Client Setup and Installation, page 2-3)

Step 2 **Create a provider and a region for the provider**—The provider is a concept designed to allow many different operators to work on ISC TEM simultaneously, each working on different networks. Thus, each provider has to be defined and used as a reference operator for future work on the system. The region is important because a single provider could have multiple networks. The region is used as a further level of differentiation to allow for such circumstances. (To create a provider and a region, see *Cisco IP Solution Center Infrastructure Reference, 4.0*.)

Step 3 **Create a seed device**—This IOS Device will be the seed router for network discovery. The network discovery process uses the seed router as an initial communication point to discover the MPLS TE network topology. A set of TE enabled devices, links, explicit paths, tunnels, and static routes are then populated to the database. (To create a seed router, see *Cisco IP Solution Center Infrastructure Reference, 4.0*.)

Step 4 **Create a TE Provider**—Providers can be defined as TE provider, if they are supporting MPLS TE in their network. It is necessary to create a TE provider to enable a TE network to be managed. All TE related data associated with a given network is stored under a unique TE provider. A provider and region uniquely define a TE provider (see Creating a TE Provider, page 2-4).

Step 5 **Run Discovery Task**—Discover the TE network for a particular TE provider to populate the repository with a view to creating primary and backup tunnels (see Chapter 3, "TE Network Discovery").

Note If Telnet is selected to communicate with the seed router, Telnet must also be used for the other network devices. Likewise, if SSH is selected for the seed router, SSH must be used for all other devices.

ISC TEM Client Setup and Installation

Before setting up ISC TEM, the ISC software must be installed. To do so, see *Cisco IP Solution Center Installation Guide, 4.0.*

To set up a new ISC TEM user, one or more users with a TE role must be created. For step by step instructions, see *Cisco IP Solution Center Infrastructure Reference, 4.0.*

For an explanation of license keys in ISC, see *Cisco IP Solution Center Infrastructure Reference, 4.0.*

To install a TE license, use the following steps:

Step 1 Log into ISC with the following default values:

- User Name: **admin**
- Password: **cisco**

Step 2 Navigate **Administration** > **Security** > **Users.**

Step 3 Click **Create**.

Step 4 Fill in **User ID**, **Password**, **Verify Password**, and the **Personal Information** section.

Step 5 Click **Edit** to edit the assigned roles.

Step 6 Select **TERole** and click **OK**. **TERole** provides full access to ISC TEM. The **TEServiceOpRole** only has the privilege to access the tunnel admission SR.

Step 7 Click **Save**.

Step 8 Navigate **Administration** > **Control Center** > **Licensing**.

Step 9 Enter the three TEM license keys for TE, TE/RG, and TE/BRG successively:

- Click **Install**.
- Enter a license key.
- Click **Save**.

Repeat the procedure for each license key.

Typing in all three license keys is the only valid installation.

Step 10 Log out as **admin**.

Step 11 Log in as the user created above.

You are now ready to start using ISC TEM.

Note The **admin** role should only be used to manage ISC and not to perform network management operations.

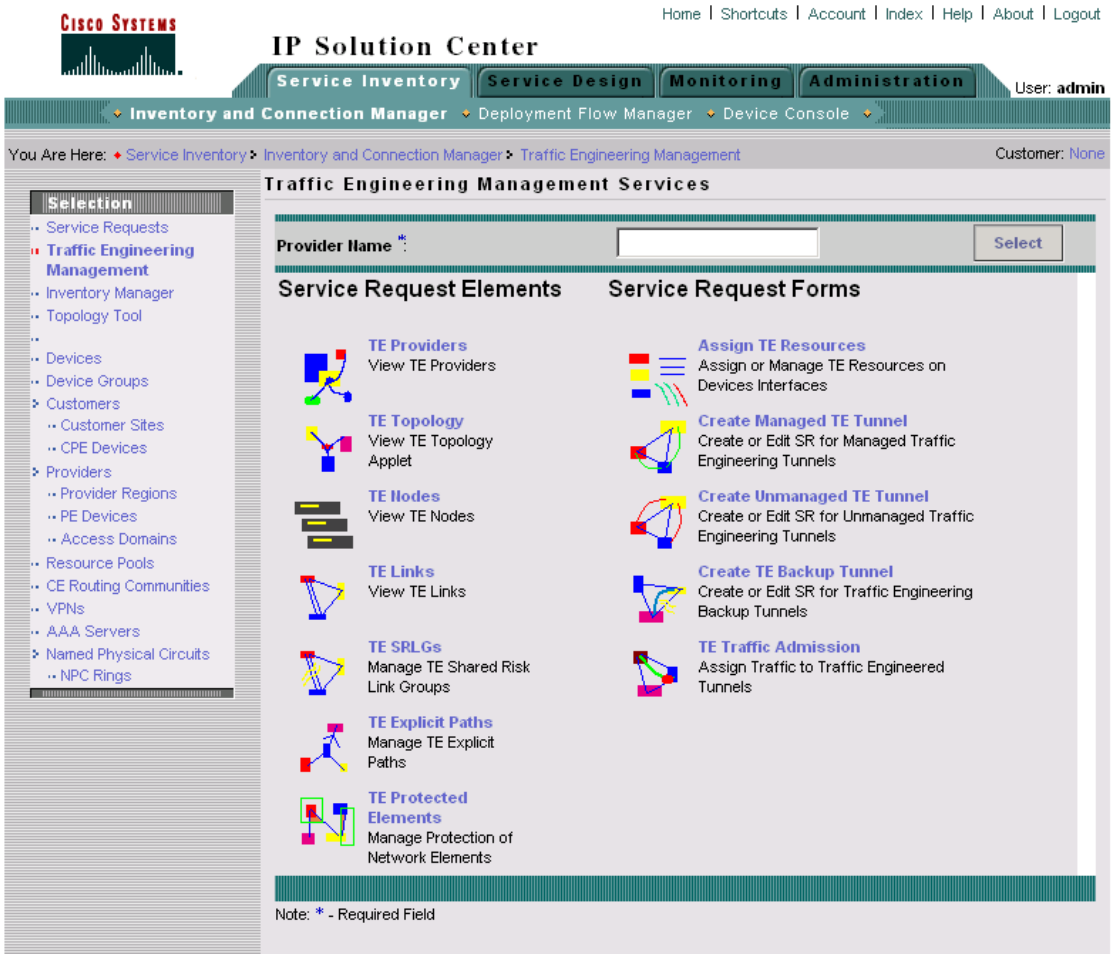
Creating a TE Provider

After a provider and a region for that provider have been set up (see *Cisco IP Solution Center Infrastructure Reference, 4.0*), create a TE provider using the following steps:

Step 1 Navigate **Service Inventory** > **Inventory and Connection Manager** > **Traffic Engineering Management**.

The Traffic Engineering Management Services window shown in Figure 2-2 appears.

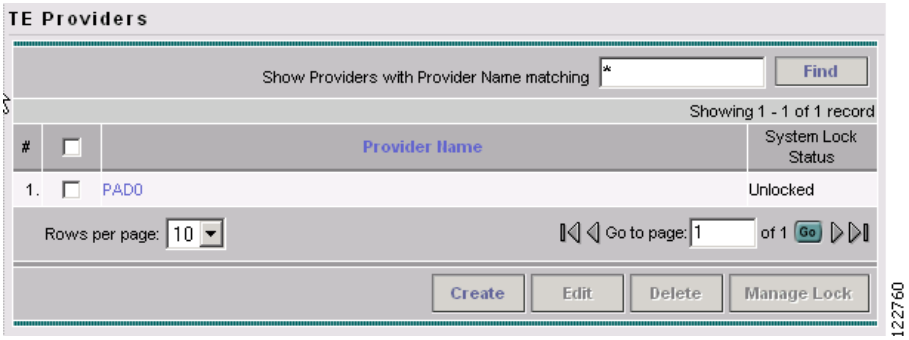
Figure 2-2 Traffic Engineering Management Services



Step 2 Click **TE Providers**.

The TE Providers window shown in Figure 2-3 appears.

Figure 2-3 TE Providers

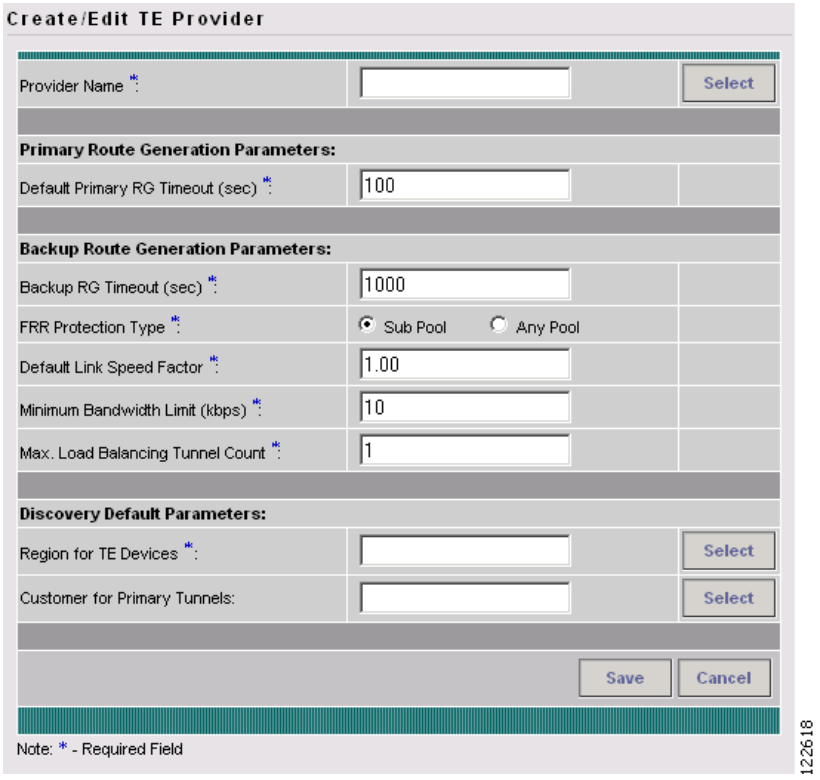


For an explanation of the various window elements, see the "TE Providers" section on page A-3.

Step 3 Click **Create** to create a TE provider.

The Create / Edit TE Provider window shown in Figure 2-4 appears.

Figure 2-4 Create/Edit TE Provider

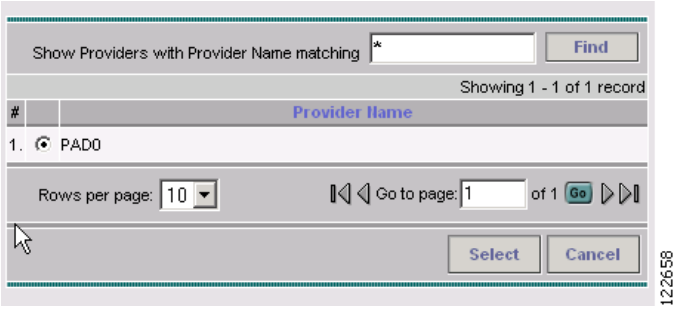


For an explanation of the various window elements, see Create/Edit TE Provider, page A-3.

To select a provider name, click the **Select** button next to the **Provider Name** field. The Provider for Create TE Provider window shown in Figure 2-5 appears.

Step 4 Add primary and backup route generation parameters. To understand Fast Re-Route (FRR) protection pools, see Bandwidth Pools, page 1-4.

Figure 2-5 Provider for Create TE Provider



Step 5 Select the desired provider using the radio buttons or search for a provider with search criteria matching a provider name and click **Find**.

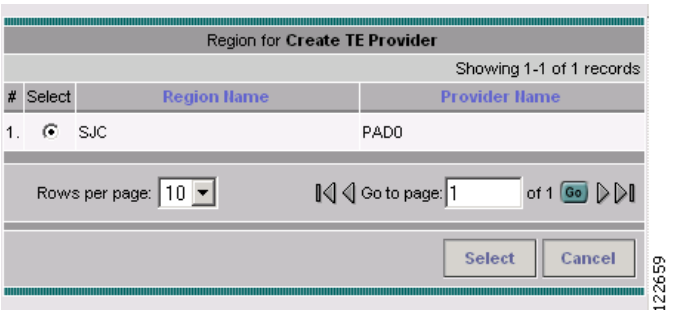
Step 6 Click **Select** to select the desired provider. The Provider for Create TE Provider window closes.

The selected provider name is displayed in the **Provider Name** field.

Step 7 Fill in the remaining required fields (marked '*') and any optional fields as desired.

Step 8 For the required **Region for TE Devices** field, click the corresponding **Select** button. The Region for Create TE Provider window shown in Figure 2-6 appears.

Figure 2-6 Region for Create TE Provider



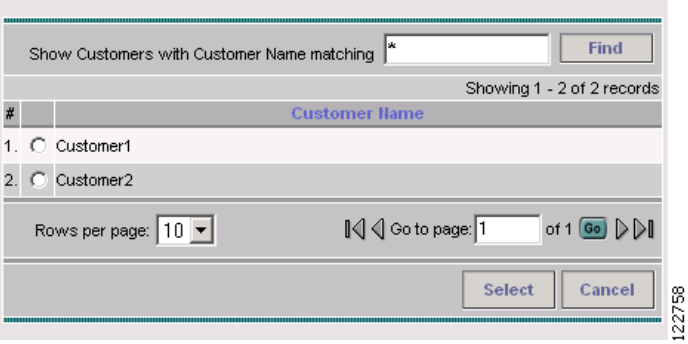
Step 9 Select the desired region using the radio buttons.

Step 10 Click **Select** to select the desired region. The Region for Create TE Provider window closes.

The selected region name is displayed in the **Region for TE Devices** field.

Step 11 For the optional **Customer for Primary Tunnels** field, click the corresponding **Select** button. The Customer for Create TE Provider window shown in Figure 2-7 appears.

Figure 2-7 Customer for Create TE Provider



Step 12 If desired, select a customer using the radio buttons or search for a customer by entering customer search criteria in the **Show Customers with Customer Name matching** field and click **Find**.

Step 13 Click **Select** to select the desired customer. The Customer for Create TE Provider window closes.

The selected customer name is displayed in the **Customer for Primary Tunnels** field of the Create / Edit TE Provider window.

Step 14 Click **Save**.