Configuring Tenants

This section includes the following topics:

Tenant Management

Tenant Management and Multi-Tenant Environments

Prime Network Services Controller provides the ability to support multi-tenant environments. A multi-tenant environment enables the division of large physical infrastructures into logical entities called organizations. As a result, you can achieve logical isolation between organizations without providing a dedicated physical infrastructure for each organization.

The administrator can assign unique resources to each tenant through the related organization in the multi-tenant environment. These resources can include different policies, pools, device profiles, firewalls, and so on. The administrator can use locales to assign or restrict user privileges and roles by organization if access to certain organizations needs to be restricted.

Users with tenant-admin role can see only those objects and resources related to their associated tenants as defined by the locales and organizations assigned to them. They cannot see the policies or resources of other tenants. Tenant-admin users can view faults only for the resources (such as firewalls) that they manage. They cannot see diagnostic information or configure administrative options.

Users with the admin role can add users with the tenant-admin role, and user with the tenant-admin or network role must be associated with a locale and organization. For more information about creating user accounts and assigning locales and organizations, see the following topics:

- Creating a User Account
- Creating a Locale

The tenant-admin role has the following privileges:

- Policy management
- Resource configuration

> **Note** A user with the tenant-admin role cannot add or delete firewalls under a tenant.

- Tenant management

Prime Network Services Controller provides a strict organizational hierarchy as follows:

1 Root

2 Tenant

3 Virtual Data Center

4 Application

5 Tier

The root can have multiple tenants. Each tenant can have multiple data centers. Each data center can have multiple applications, and each application can have multiple tiers.

The policies and pools created at the root level are systemwide and are available to all organizations in the system. However, any policies and pools created in an organization below the root level are available only to those resources that are below that organization in the same hierarchy.

For example, if a system has tenants named Company A and Company B, Company A cannot use any policies created in the Company B organization. Company B cannot access any policies created in the Company A organization. However, both Company A and Company B can use policies and pools in the root organization.

Name Resolution in a Multi-Tenant Environment

In a multi-tenant environment, Prime Network Services Controller uses the hierarchy of an organization to resolve the names of policies and resource pools. The steps Prime Network Services Controller takes to resolve the names of policies and resource pools are as follows:

1 Prime Network Services Controller checks the policies and pools for the specified name within an organization assigned to the device profile or security policy.

2 If the policy or pool is found, Prime Network Services Controller uses that policy or pool.

3 If the policy or pool does not contain available resources at the local level, Prime Network Services Controller moves up the hierarchy to the parent organization and checks for a policy with the specified name. Prime Network Services Controller repeats this step until the search reaches the root organization.

Note   The object name reference resolution takes an object name and resolves an object from an organization container to the object with the same name which is closest in the tree up to the root of the tree. If an object with the specified name is not found, Prime Network Services Controller uses a corresponding default object. For example, there is an SNMP policy under data center called MySNMP, and there is an SNMP policy in the tenant in the same tree that is also MySNMP. In this case, the user cannot explicitly select the MySNMP policy under the tenant. If the user wants to select the SNMP policy under the tenant, they must provide a unique name for the object in the given tree.

4   If the search reaches the root organization and an assigned policy or pool is not found, Prime Network Services Controller looks for a default policy or pool starting at the current level and going up the chain to the root level. If a default policy or pool is found, Prime Network Services Controller uses it. If a policy is not available, a fault is generated.

Configuring Tenants

Creating a Tenant

Procedure

Step 1   Choose **Tenant Management > root > Create Tenant**.

Step 2   In the Create Tenant dialog box, complete the following fields, then click **OK**:

Field	Description
Name	Tenant name. This name can contain 1 to 32 identifier characters. You can use alphanumeric characters including hyphen, underscore, dot, and colon. You cannot change this name after it is created.
Description	Brief tenant description. This field can contain between 1 and 256 characters. You can use alphanumeric characters including hyphen, underscore, dot, and colon.

Editing a Tenant

Procedure

Step 1   Choose **Tenant Management > root > tenant**.

Step 2   In the Sub-Elements tab, select the tenant you want to edit, then click **Edit**.

Step 3   In the **Edit Tenant** dialog box, modify description, then click **OK**. The Level field identifies the tenant's level in the hierarchy and is read-only.

Deleting a Tenant

Note   When you delete an organization (such as a tenant, virtual data center, application, or tier), all data contained under the organization is deleted, including sub organizations, compute firewalls, edge firewalls, resource pools, and policies.

Procedure

Step 1   Choose **Tenant Management > root > Sub-Elements**.

Step 2   Select the tenant you want to delete, then click **Delete Tenant**.

Step 3   When prompted, confirm the deletion.

Configuring Virtual Data Centers

Creating a Virtual Data Center

Procedure

Step 1   Choose **Tenant Management > root >** *tenant*, where *tenant* is the location for the new virtual data center.

Step 2   In the General tab, click **Create Virtual Data Center**.

Step 3   In the Create Virtual Data Center dialog box, complete the following fields, then click **OK**:

Field	Description
Name	VDC name. This name can contain 1 to 32 identifier characters. You can use alphanumeric characters including hyphen, underscore, dot, and colon. You cannot change this name after it is created.
Description	Brief VDC description. This field can contain between 1 and 256 characters. You can use alphanumeric characters including hyphen, underscore, dot, and colon.

Editing a Virtual Data Center

Procedure

Step 1 Choose **Tenant Management > root >** *tenant* **> Sub-Elements**.

Step 2 In the Sub-Elements tab, select the virtual data center you want to edit, then click **Edit**.

Step 3 In the Edit Virtual Data Center dialog box, modify the description, then click **OK**. The Level field indicates the level of the virtual data center in the hierarchy, and is read-only.

Deleting a Virtual Data Center

Note When you delete a virtual data center, all data contained under the virtual data center is deleted, including sub-organizations, firewalls, resource pools, and policies.

Procedure

Step 1 Choose **Tenant Management > root >** *tenant* **> Sub-Elements**, where *tenant* is the tenant with the virtual data center that you want to delete.

Step 2 Select the virtual data center that you want to delete, then click **Delete Virtual Data Center**.

Step 3 When prompted, confirm the deletion.

Configuring Applications

Creating an Application

Procedure

Step 1 Choose **Tenant Management > root >** *tenant* **>** *vdc* where *vdc* is the location for the new application.

Step 2 In the General tab, click **Create Application**.

Step 3 In the Create Application dialog box, complete the following fields, then click **OK**:

Field	Description
Name	Application name.
	This name can contain 1 to 32 identifier characters. You can use alphanumeric characters including hyphen, underscore, dot, and colon. You cannot change this name after it is created.
Description	Brief application description.
	This field can be between 1 and 256 characters. You can use alphanumeric characters including hyphen, underscore, dot, and colon.

Editing an Application

Procedure

Step 1 Choose **Tenant Management > root >** *tenant* **>** *virtual-data-center* **> Sub-Elements** , where *virtual-data-center* is the virtual data center with the application that you want to edit.

Step 2 Select the application that you want to edit, then click **Edit**.

Step 3 In the Edit Application dialog box, modify the description as required, then click **OK**. The Level field identifies the level of the application in the hierarchy, and is read-only.

Deleting an Application

Note   When you delete an application, all data contained under the application is deleted, including sub-organizations, firewalls, resource pools, and policies.

Procedure

Step 1   Choose **Tenant Management > root >** *tenant* **>** *virtual-data-center* **> Sub-Elements**, where *virtual-data-center* is the virtual data center with the application you want to delete.

Step 2   Select the application that you want to delete, then click **Delete Application**.

Step 3   When prompted, confirm the deletion.

Configuring Tiers

Creating a Tier

Procedure

Step 1   Choose **Tenant Management > root >** *tenant* **>** *vdc* **>** *application*, where *application* is the location for the new tier.

Step 2   In the General tab, click **Create Tier**.

Step 3   In the Create Tier dialog box, complete the following fields, then click **OK**:

Field	Description
Name	The name of the Tier. This name can contain 1 to 32 identifier characters. You can use alphanumeric characters including hyphen, underscore, dot, and colon. You cannot change this name after it is created.
Description	A description of the Tier. This field can contain between 1 and 256 characters. You can use alphanumeric characters including hyphen, underscore, dot, and colon.

Editing a Tier

Procedure

Step 1 Choose **Tenant Management > root >** *tenant* **>** *virtual-data-center* **>** *application* **>** *tier* where *tier* is the tier you want to edit.

Step 2 In the Properties tab, modify the description as required, then click **Save**.

Deleting a Tier

Note When you delete a tier, all data contained under it is also deleted, including sub-organizations, firewalls, resource pools, and policies.

Procedure

Step 1 Choose **Tenant Management > root >** *tenant* **> Sub-Elements**, where *tenant* contains the tier you want to delete.

Step 2 Navigate to the tier you want to delete, select it, then click **Delete Tier**.

Step 3 When prompted, confirm the deletion.