HP OpenView Service Navigator Value Pack

Service Configuration for Service Navigator User's Guide

Software Version: 8.0

for the HP-UX, Microsoft Windows, and Sun Solaris operating systems

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Manufacturing Part Number: None

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Revisions

This manual's title page contains the following identifying information:

❏ Version number, which indicates the software version.

❏ Print date, which changes each time the document is updated.

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Table 1 indicates changes made to this document since the last released edition.

Table 1   Changes in This Document Version

Chapter	Changes
Chapter 1, "Configuring Service Hierarchies," on page 11	Added and updated information about: • service hierarchy rules • deleting objects • excluding objects • cadm_Deploy
Chapter 2, "Configuring Objects," on page 63	Added and updated information about: • finding objects in a service hierarchy • enhancing submaps in Service Navigator • multi-line labels in Service Navigator • reserved user-defined attributes • cadm_Deploy and root objects being excluded from deployment • object origin • default icons

Table 1   **Changes in This Document Version (Continued)**

Chapter	Changes
Chapter 3, "Configuring Status," on page 117	Added information about status simulation.
Chapter 6, "Administering Service Configuration," on page 165	Updated information about opcsvinfo file to reflect changes for OVO 8.0.

1 Configuring Service Hierarchies

Creating Service Hierarchies with the Wizard

Service hierarchies are organizational structures that hold child and parent objects. A **parent object** can have more than one child object, and a **child object** can have more than one parent object. The status of the parent object is determined by rules that define how the status of a child object influences the status of its parent. A child object can be part of multiple service hierarchies. In each service hierarchy, it is treated as a unique object, with a unique name, and its own set of status rules and actions.

The top-level object in a service hierarchy is the **root object**. Root objects are abstract items that represent the topmost object level in your service hierarchy. Root objects serve a dual purpose. They provide a single point of entry into an object branch and they let you control which operator accesses a particular branch of a hierarchy in Service Navigator. Because the root object layer of a service hierarchy is not deployed to Service Navigator, the operators assigned to the root objects will only see the objects below the root objects as their service view in Service Navigator.

In a few steps, the Service Hierarchy Wizard helps you quickly set up important aspects of a service hierarchy. It guides you through the steps required to create the initial service hierarchy and assists you in defining the root objects for that hierarchy. Once this is done, you can add other objects to the hierarchy, decide which status rules you want to use, and associate actions with your objects.

NOTE   Remember to set up one or more OVO management servers in Service Configuration and to import data from these servers before starting to create a service hierarchy. See "Configuring OVO Management Servers" on page 169 for more information.

Steps to complete:

1. **Step 1: Specifying General Properties**

   Specify general aspects of a service hierarchy such as the name and a description. Select an OVO management server as discovery server for discovered and migrated objects and one or more servers as target servers for deployment. See "Step 1: Specifying General Properties" on page 15 for details.

2. **Step 2: Adding Root Objects**

   Specify the root objects of a service hierarchy. Root objects are abstract objects that represent the topmost object level in your service hierarchy. See "Step 2: Adding Root Objects" on page 17 for details.

3. **Step 3: Adding Child Objects**

   After you have configured the general aspects of a service hierarchy and added the root objects, you are finished with the Service Hierarchy Wizard. You can now start adding child objects to the hierarchy using the following methods:

   - *Copying objects from discovered hierarchies*

     If you are using the service discovery features that are available with some HP OpenView Smart Plug-ins, the discovery output is redirected to a dedicated service hierarchy in Service Configuration. From that service hierarchy, you can copy and paste object branches into other service hierarchies.

   - *Manually*

     If you don't have access to the methods described above, you can add objects manually. This is described in "Manually Adding Child Objects to a Service Hierarchy" on page 21. If you are using Service Configuration together with Service Desk, you can also manually add Service Desk objects to a service hierarchy.

- *Rule-based* (available with the Service Desk integration only)

  Service hierarchy rules work like filters: they define conditions that must be met by Service Desk objects before the objects are added to a service hierarchy. For example, you could set up a filter that adds objects of the type "configuration item", where the category equals "software". Whenever configuration items of the category "software" are added to Service Desk, they are also added automatically to the service hierarchy that uses the rule.

  Note that when using the Service Desk integration, the Service Configuration Service Hierarchy Wizard is modified to let you set up service hierarchy rules.

To start the Service Hierarchy Wizard:

From the **File** menu, click **New Service Hierarchy...**, or click the **New Service Hierarchy** toolbar button. The Service Hierarchy Wizard opens and displays the General page.

Step 1: Specifying General Properties

The general properties describe some basic aspects of a service hierarchy such as the name and a description. They also list an OVO **management server** as discovery server for discovered and migrated objects and one or more servers as target servers for **deployment**:

❏ **Discovery server**

The discovery server is the OVO management server that is the source for discovered and migrated objects. Service discovery processes on this server feed discovered objects into this service hierarchy. Similarly, the tool cadmexport stores migrated objects in this hierarchy. A service hierarchy can have only zero or one discovery server.

❏ **Target server(s)**

The target server is the OVO management server where this service hierarchy will be deployed. This is also the server from where data such as nodes, users, and service names (from OVO messages) are imported. A service hierarchy can have zero, one, or multiple target servers.

Choosing a target server means that only data from that server is available for selection, for example for assigning users to root objects or for selecting hosting nodes for resources. You can also choose multiple target servers for a service hierarchy which allows you to mix data from these servers in the hierarchy. However, when you deploy a service hierarchy that uses data from multiple OVO management servers, only the parts of the service hierarchy relevant for the selected target server are deployed. See "Removing OVO Management Servers from Service Hierarchies" on page 51 for more information about removing an OVO management server as target server from a service hierarchy.

To specify general properties:

1. Start the Service Hierarchy Wizard.

   From the **File** menu, click **New Service Hierarchy...**, or click the **New Service Hierarchy** toolbar button. The Service Hierarchy Wizard opens and displays the General page.

2. In the **Hierarchy name** field, type the name of your hierarchy (max 255 characters). This name will be used to reference the hierarchy within the Service Configuration application.

3. In the **Description** field, type a short description to summarize the purpose and content of the service hierarchy (max 4000 characters).

4. Select an OVO **management server** as discovery server from the drop-down list. If you are not configuring a discovery hierarchy, select **<None>** from the list. If the server you are looking for is not included in the list, it is either selected as discovery server for another service hierarchy or it is not yet configured. See "Configuring OVO Management Servers" on page 169 for more information about setting up OVO management servers in Service Configuration.

5. Select one or more OVO management servers as target servers for deployment. This is also the OVO management server from where you import data such as nodes, users, and service names (from OVO messages).

6. Click **Next Page >** to go to the following page of the Service Hierarchy Wizard where you can select root objects for the hierarchy. See "Step 2: Adding Root Objects" on page 17.

TIP   Check the summary section at the bottom of the wizard page to get a quick overview of the current configuration of the service hierarchy.

Step 2: Adding Root Objects

The top-level objects in a service hierarchy are the root objects. Root objects are abstract objects that represent the topmost object level in your service hierarchy. Root objects serve a dual purpose. They provide a single point of entry into a service hierarchy branch and they let you control which operator accesses a particular branch of a hierarchy in Service Navigator. Because the root object layer of a service hierarchy is not deployed to Service Navigator, the operators assigned to the root objects will only see the objects below the root objects as their service view in Service Navigator.

NOTE   Unless you are creating a hierarchy for service discovery, you should add at least *one* **root object** to your service hierarchy and assign at least one user to that root object.

To add root objects:

1. Start the Service Hierarchy Wizard and specify general properties for your service hierarchy as described in "Step 1: Specifying General Properties" on page 15.

2. Click **Next Page >** to go to the Root Objects page of the Service Hierarchy Wizard. Alternatively, click the **Root objects** link in the summary section of the wizard page.

3. Click **New Root...** to create a new root object for the hierarchy. The New Root Object dialog box opens where you can create the new root object. See "Creating a New Root Object" on page 26 for more information.

   To edit a root object, double-click it or select it and click **Edit...**. Use the **Delete...** button to delete a root object.

4. **Service Desk integration only**

   If you are using the Service Desk integration, you can use the Service
   Hierarchy Wizard to add service hierarchy rules to the hierarchy:

   a. *Child object rules*

      On the Root Objects page of the Service Hierarchy Wizard, click
      New Rule... to open the Child Object Rule Editor. In the Child
      Object Rule Editor, select an existing rule or click **New...** to
      create a new rule.

   b. *Parent-and-child object rules*

      On the Root Objects page of the Service Hierarchy Wizard, click
      Next Page > to open the Parent-and-child Object Rules page.
      Select an existing rule or click **New...** to create a new rule.

5. Click **Finish** to complete the configuration of the service hierarchy
   and to close the wizard. The new service hierarchy is displayed in the
   Service Configuration console and you can now start adding child
   objects as described in "Manually Adding Child Objects to a Service
   Hierarchy" on page 21.

TIP   Check the summary section at the bottom of the wizard page to get a
               quick overview of the currently configured root objects.

Before You Complete a Service Hierarchy

When you create a new service hierarchy, it is good practice to add at
least *one* **root object** to the hierarchy. You should assign users to the
root object that are known on the OVO management server that is the
target server for deployment. This ensures successful deployment of the
service hierarchy to the target server.

It is not necessary to create root objects for default service hierarchies
because they will be supplied by the discovery or migration processes.

TIP   If you do not add any root objects using the Service Hierarchy Wizard,
                 you can use the Service Configuration main console to add root objects
                 later on. In the Service Configuration console, select the top-level
                 Services element, and choose **Add Root Object...** from the shortcut
                 menu.

See also "Step 2: Adding Root Objects" on page 17 and "Creating a New
Root Object" on page 26.

Before You Delete a Root Object

Consider carefully whether you really want to delete a root object. The
root objects you set up and delete while working with the Service
Hierarchy Wizard cannot be recovered.

See also "Step 2: Adding Root Objects" on page 17 and "Creating a New
Root Object" on page 26.

Modifying Service Hierarchies

After having created a service hierarchy with the wizard, you can start filling the hierarchy with objects. This is usually done manually, unless you use the service discovery features provided by some HP OpenView Smart Plug-ins (SPIs).

This section also explains when it may become necessary to reload a service hierarchy, and what happens when you save a service hierarchy.

Manually Adding Child Objects to a Service Hierarchy

Adding child objects to a service hierarchy is a manual process, unless you use the service discovery features provided by some HP OpenView Smart Plug-ins (SPIs).

The status relationship between the child and the parent object is defined by status rules (propagation rules, calculation rules, and weighting). When you add a child object to a parent object, the default propagation rule Unchanged and the default calculation rule Most Critical are used. Weighting is set to the default of one (1).

To manually add child objects to a service hierarchy:

1. Load the service hierarchy into the Service Configuration console. See "Loading a Service Hierarchy" on page 47 for more information about loading a service hierarchy.

2. Expand the service hierarchy and select the parent object under which you want to add the child object.

3. Select **Add Child Object...** from the shortcut menu, or **Edit: Add Child Object...** from the menu bar. Alternatively, click the **Add Child Object** toolbar button. The Add Child Object dialog box opens and displays all child objects that are currently configured in the service hierarchy.

NOTE   Service Configuration sometimes displays Advanced Find instead of the Add Child Object dialog box. This is the case when more objects are configured than the Add Child Object dialog box can display. Use Advanced Find to search for objects you want to add as child objects.

4. Select an object in the list and click **Choose** or double-click the object. If you want to inspect the properties of the selected object before choosing it, click **Properties...**.

   If you cannot find an appropriate object, click **New...** to create a new child object as described in "Manually Creating a New Child Object" on page 24.

   a. To find an object, type a few characters of the object you are looking for in the **Look for** field.

   b. Click **Find Next**.

      Service Configuration selects the first object that matches the typed characters. If the object found is not the one you are looking for, click **Find Next** again or change the characters you typed into the Look for field.

   c. If there are too many objects in the list, click the **Advanced Find...** button to define a more sophisticated search pattern.

   Service Configuration always searches all columns.

5. Click **Close** to close the Add Child Object dialog box if it is not already closed.

6. Save the modified service hierarchy by clicking the **Save** toolbar button or selecting **File: Save** from the menu bar.

If you add a child object to a parent object that appears in multiple locations in a service hierarchy, the child object will be added to all occurrences of the parent object in the hierarchy. See "Adding a Child Object to Identical Parents" on page 23 for details.

Adding a Child Object to Identical Parents

If you add a child object to an object that appears in multiple locations in a service hierarchy, the object will be added to all identical parents. In the following example, object "Object A" appears in two different object branches ("Root 1" and "Root 2"). When you add an object, "Object a" in the example, to "Object A" in one branch, the object is added to all occurrences of "Object A". See also "Manually Adding Child Objects to a Service Hierarchy" on page 21.

Figure 1-1   **Adding a Child Object to Identical Parent Objects**
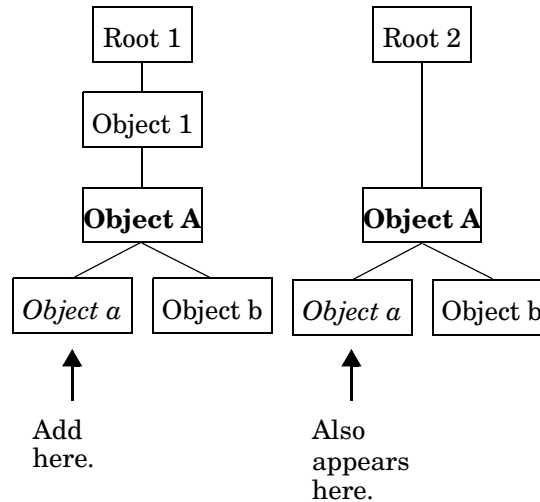
Manually Creating a New Child Object

General properties of a child object include the name, a label, a description, and information about hosting nodes. The hosting node is the node where your object, usually a **service resource**, resides.

NOTE   To configure advanced information for the new child object, such as presentation properties, logging properties, status rules, and so on, open the Property Summary dialog for the object and follow the links presented in the summary section. See "Configuring Object Attributes" on page 75 and "Setting Object Status" on page 99.

To create a new child object:

1. Load the service hierarchy into the Service Configuration console. See "Loading a Service Hierarchy" on page 47 for more information about loading a service hierarchy.

2. Expand the service hierarchy and select the parent object under which you want to add the child object.

3. Open the New Child Object dialog box:

    • Select **Add Child Object...** from the shortcut menu, or **Edit: Add Child Object...** from the menu bar. Alternatively, click the **Add Child Object** toolbar button. The Add Child Object dialog box opens and displays all currently configured objects.

      Click **New...** to create a new child object. A dialog box opens where you can specify general properties of the child object.

    • Select **Add New Child Object...** from the shortcut menu, or **Edit: Add New Child Object...** from the menu bar.

4. In the **Name** field, type the name of the child object. The name you choose must be unique throughout the Service Configuration application. The Name field is a required field (max 4000 characters).

5. In the **Label** field, type the label of the child object (max 50 characters). Service Configuration automatically inserts the object name in this field because a label is required for each object. The label will be visible in the Service Configuration and Service Navigator consoles.

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6. In the **Description** field, type a short sentence to describe the object (max 255 characters).

7. Select **Object is a hosted resource** if you want your object to be hosted on a node. Click **Add...** to open a list of nodes to browse.

8. The check box **Manually changed** is selected by default for all manually added or mapped objects. For discovered objects, the check box is initially not set. However, when you modify discovered objects, Service Configuration automatically selects the check box. If this check box is *not* selected, and you modify a discovered object, your changes will be overwritten the next time the discovery processes add the same object to the Service Configuration repository.

9. Click **OK** to save the object and close the dialog box. The new object is added below the selected parent object in the map.

10. Save your service hierarchy by clicking the **Save** toolbar button or selecting **File: Save** from the menu bar.

See "Creating a New Root Object" on page 26 for information about creating a new root object.

Creating a New Root Object

General properties of a root object include the name, a label, a description, and a list of OVO users who will be granted access to the service hierarchy in Service Navigator. As the root object layer of a service hierarchy is not deployed to Service Navigator, the operators assigned to the root object(s) will only see the objects below the root object(s) as their service view in Service Navigator.

You cannot set up identical root objects in the *same* service hierarchy because root objects must be unique within the same service hierarchy. You can, however, set up identical root objects in *different* service hierarchies. Upon deployment, Service Configuration prefixes the name of the service hierarchy to the name of the root object so that the root object is unique within Service Navigator. The labels remain unchanged.

TIP   To configure advanced information for the root object, such as presentation properties, logging properties, and status rules, open the Property Summary dialog for the root object and follow the links presented in the summary section. See "Configuring Object Attributes" on page 75 and "Setting Object Status" on page 99.

To create a new root object:

1. Load the service hierarchy into the Service Configuration console. See "Loading a Service Hierarchy" on page 47 for more information about loading a service hierarchy.

2. Select **Edit: Add New Root Object...** from the menu bar or **Add New Root Object...** from the shortcut menu. A dialog box opens where you can specify general properties of the root object.

NOTE   You can also access the New Root Object dialog box from the Service Hierarchy Wizard when creating a new service hierarchy.

3. In the **Name** field, type a name for the root object. The name you choose must be unique throughout the Service Configuration application. The Name field is a required field (max 4000 characters).

4. In the **Label** field, type the label of the root object (max 50 characters). Service Configuration automatically inserts the object name in this field because a label is required for each object. The label will be visible in the Service Configuration and Service Navigator consoles.

5. In the **Description** field, type a short sentence to describe the root object (max 255 characters).

6. Assign one or more OVO users to the root object. Assigned users will have access to and be responsible for that hierarchy branch in Service Navigator. If your desired user is not present, try importing the latest data from the OVO management server that is the target server of this hierarchy. See also "Importing Data from OVO" on page 176.

   Select one or more users in the list of available users and click **Add >>**. The users are moved to the list of users responsible for the object. To move users between the two lists, you can also simply double-click them.

NOTE   You must assign at least *one* user to your root objects. The users must be known on the OVO management server where you plan to deploy the service hierarchy.

7. Click **OK** to add the new root object to the configuration.

See "Manually Deleting Objects from a Service Hierarchy" on page 28 for information about deleting objects from a service hierarchy.

Manually Deleting Objects from a Service Hierarchy

You can delete any object from a service hierarchy if you are certain that it is obsolete. Depending on how, where, and how often the object has been added, either the object itself is deleted from Service Configuration, or only the association to the parent object(s) is deleted:

❏ **Deleting a Root Object from a Service Hierarchy**

If you delete a root object from a service hierarchy, the object structure below the root object will also be deleted. See also "Deleting a Root Object from a Service Hierarchy" on page 30.

❏ **Deleting a Child Object with Only One Parent**

When you delete a child object that appears in only one location in a service hierarchy, the object will be deleted from Service Configuration. See also "Deleting a Child Object with Only One Parent" on page 31.

❏ **Deleting a Child Object with Multiple Identical Parents**

When you delete a child object that has multiple parent objects, it will be deleted from all identical parents but it will continue to exist below all other parents. See also "Deleting a Child Object with Multiple Identical Parents" on page 32.

❏ **Deleting a Child Object with Multiple Different Parents**

When you delete a child object that appears in multiple locations in a service hierarchy but under different parent objects, it is only deleted from the current location but continues to exist below all other parent objects. See also "Deleting a Child Object with Multiple Different Parents" on page 34.

❏ **Deleting a Child Object with Multiple Parents**

When you delete a child object that appears below multiple identical parent objects, is deleted from all parents and also, because it does not have any other parent objects, from the Service Configuration application. See also "Deleting a Child Object with Multiple Parents" on page 35.

To delete an object:

CAUTION Deleting an object branch with many objects can be very memory-intensive. If the delete operation fails due to insufficient memory on your console system, try to delete smaller parts of the object branch at a time.

1. Load the service hierarchy into the Service Configuration console. See "Loading a Service Hierarchy" on page 47 for more information about loading a service hierarchy.

2. Expand the service hierarchy and select the object you want to delete.

3. Select **Delete from Parent Object...** from the shortcut menu or **Edit: Delete from Parent Object...** from the main menu. Alternatively, click the **Delete from Parent Object** toolbar button. A message appears asking you to confirm that you want to delete the object.

4. Click **Continue**. The object is deleted.

Deleting a Root Object from a Service Hierarchy

When you delete a root object from a service hierarchy, you also delete the complete object structure below the root object. Depending on how the child objects were added below the root object and on the number of occurrences, the child objects will be deleted only in this object branch or will be deleted from the Service Configuration application.

CAUTION	Deleting an object branch with many objects can be very memory-intensive. If the delete operation fails due to insufficient memory on your console system, try to delete smaller parts of the object branch at a time.

TIP	To recover accidentally deleted root objects (and their child objects), reload the service hierarchy by selecting **File: Reload** from the menu. This only works if you do not save the service hierarchy after having modified it.

See also "Manually Deleting Objects from a Service Hierarchy" on page 28.

Deleting a Child Object with Only One Parent

When you delete a child object that does not appear anywhere else in a service hierarchy, the object is deleted from the Service Configuration application.

In the example in Figure 1-2, "Object a" appears only below "Object A". When you delete "Object a", it is deleted from the Service Configuration application, that is it is removed from the database.

NOTE   If the deleted object was added by service discovery or service hierarchy rules, it may be added again the next time the discovery processes run or the rules are applied.

Figure 1-2   Deleting a Child Object with Only One Parent
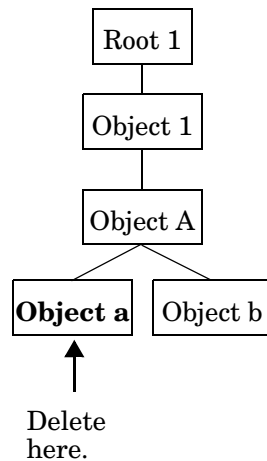
```
                    ┌──────────┐
                    │  Root 1  │
                    └──────────┘
                          │
                    ┌──────────┐
                    │ Object 1 │
                    └──────────┘
                          │
                    ┌──────────┐
                    │ Object A │
                    └──────────┘
                      │       │
               ┌──────────┐ ┌──────────┐
               │ Object a │ │ Object b │
               └──────────┘ └──────────┘
                     ↑
                  Delete
                  here.
```

TIP   To recover accidentally deleted child objects, reload the service hierarchy by selecting **File: Reload** from the menu. This only works if you do not save the service hierarchy you have modified it.

Deleting a Child Object with Multiple Identical Parents

When you delete a child object that appears below multiple identical parent objects, is deleted from all parents and also, because it does not have any other parent objects, from the Service Configuration application.

In the example in Figure 1-3, child object "Object a" appears in two different object branches. In both branches "Object a" has the same parent object ("Object A"). When you delete "Object a" below "Object A" in the first branch, it is also deleted below "Object A" in the second branch. As there are no other occurrences of the object in this service hierarchy, the object is deleted from Service Configuration.

NOTE   If the deleted object was added by service discovery or service hierarchy rules, it may be added again the next time the discovery processes run or the rules are applied.

Figure 1-3   Deleting a Child Object with Multiple Identical Parents
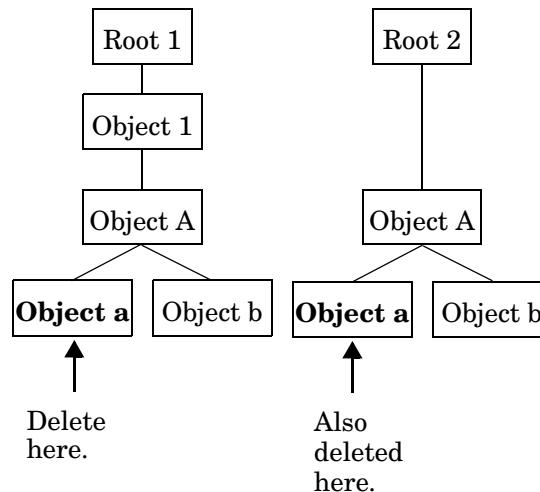
TIP   To recover accidentally deleted child objects, reload the service hierarchy
               by selecting **File: Reload** from the menu. This only works if you do not
               save the service hierarchy you have modified it.

Deleting a Child Object with Multiple Different Parents

When you delete a child object that appears in multiple locations in a service hierarchy but under different parent objects, it is only deleted from the current location but continues to exist below all other parent objects.

In the example in Figure 1-4, "Object a" is a child of two different parent objects: "Object A" and "Object 1". When you delete "Object a" below "Object A", it is only deleted there but continues to exist below "Object 1".

NOTE   If the deleted object was added by service discovery or service hierarchy rules, it may be added again the next time the discovery processes run or the rules are applied.

Figure 1-4   **Deleting a Child Object with Multiple Different Parents**
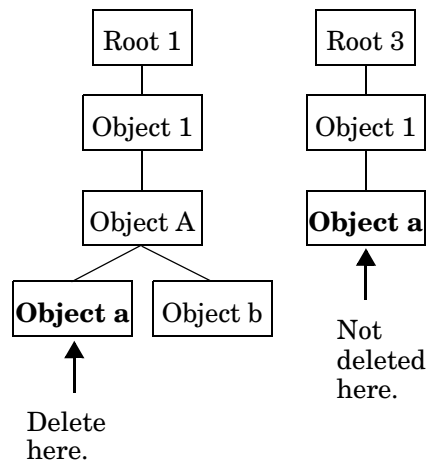
TIP   To recover accidentally deleted child objects, reload the service hierarchy by selecting **File: Reload** from the menu. This only works if you do not save the service hierarchy after you have modified it.

Deleting a Child Object with Multiple Parents

When you delete a child object that has multiple parent objects, it will be deleted from all identical parents but it will continue to exist below all other parents. In Service Configuration, only the association to the parent object(s) is deleted, the object itself continues to exist below other parent objects.

In the example in Figure 1-5, child object "Object a" appears in three different object branches. In two of these branches "Object a" has the same parent object ("Object A"), in the third branch it has the parent object "Object B". When you delete "Object a" below "Object A" in the first branch, it is also deleted below "Object A" in the second branch, but it is not deleted from the third parent object ("Object 1").

NOTE   If the deleted object was added by service discovery or service hierarchy rules, it may be added again the next time the discovery processes run or the rules are applied.

Figure 1-5   **Deleting a Child Object with Multiple Parents**
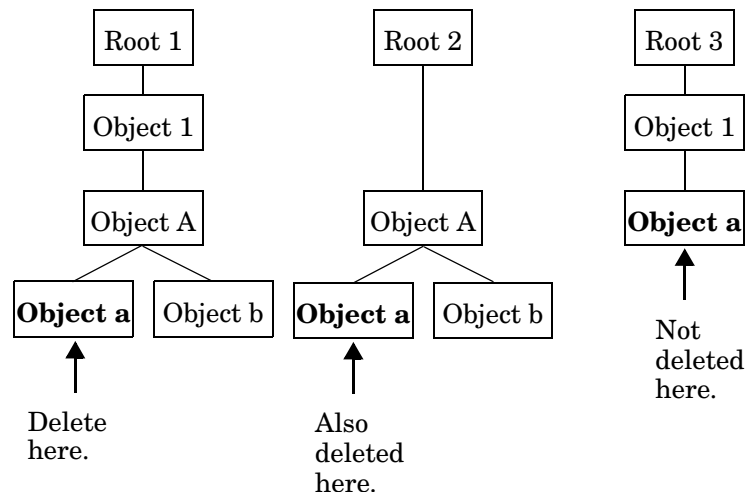
TIP   To recover accidentally deleted child objects, reload the service hierarchy
                     by selecting **File: Reload** from the menu. This only works if you do not
                     save the service hierarchy after you have modified it.

Excluding Objects from a Service Hierarchy

Discovered or generated objects can be excluded from a service hierarchy. Excluded objects do not contribute to the status of their parent objects and are not deployed to Service Navigator.

Marking objects as excluded is better than simply deleting them because deleted objects may be added again the next time the discovery processes run or the service hierarchy rules are applied. Excluded objects carry an excluded flag that identifies them as excluded and prevents them from being added again.

When copying and pasting objects between service hierarchies, excluded objects are not copied and are therefore not pasted.

To exclude objects from a service hierarchy:

1. Load the service hierarchy into the Service Configuration console. See "Loading a Service Hierarchy" on page 47.

2. Expand the service hierarchy and select the object that you want to exclude from the service hierarchy.

3. Select **Exclude from Service Hierarchy** from the shortcut menu or **Edit: Exclude from Service Hierarchy** from the main menu.

In the Service Configuration console, excluded objects are by default hidden from view. Select **View: Show Excluded Objects** from the main menu to make excluded objects appear in the console. Excluded objects carry an excluded badge on the top left of the object's icon.

TIP   To include an excluded object, set the console to show excluded badges for objects, select the object, then select **Include in Service Hierarchy** from the shortcut menu. You can also check whether an object is excluded by viewing the object's association to its parent object.

See also "Viewing the Association to Parent Objects" on page 97.

Reloading a Service Hierarchy

Reloading a service hierarchy is useful when other processes or users modify a service hierarchy. For example, service discovery of HP OpenView Smart Plug-ins (SPIs) can add or delete objects using discovery processes or another user working in parallel may edit objects.

The reload process updates the service hierarchy in the Service Configuration console with the latest data stored in the database. New objects that were added are shown, and obsolete objects that were deleted are removed.

NOTE   Any unsaved changes you have made to a service hierarchy will be lost after the hierarchy has been reloaded. Reloading a service hierarchy may take several minutes, depending on the size of the hierarchy.

To reload a service hierarchy:

Select **File: Reload** from the menu bar.

TIP   Reloading is useful in situations where you have modified the current hierarchy but do not want to save your changes. Simply reload the service hierarchy to retrieve the last saved status from the database.

See "Saving a Service Hierarchy" on page 39 for more information about saving a service hierarchy.

Saving a Service Hierarchy

After you have made manual changes to a service hierarchy, remember to save them by saving the service hierarchy.

To save a service hierarchy:

Click the **Save** toolbar button or select **File: Save** from the menu bar. A message confirms that the changes you made to the currently displayed service hierarchy were saved successfully.

NOTE   You may be prompted to save a service hierarchy when loading a different hierarchy into the Service Configuration console. See "Loading a Service Hierarchy" on page 47 for more information about switching between different service hierarchies.

See also "Saving a Service Hierarchy Under a New Name" on page 40.

Saving a Service Hierarchy Under a New Name

Saving a service hierarchy under a new name is useful when you have made changes to the current service hierarchy but for some reason do not want to save these changes for the current hierarchy.

CAUTION   Saving a large service hierarchy under a new name can be very memory-intensive. If the "save as" operation fails due to insufficient memory on your console system, increase the amount of allocated memory. See also "Monitoring the Progress of the "Save as" Operation" on page 40.

To save a service hierarchy under a new name:

1. Click the **Save as** toolbar button or select **File: Save as** from the menu bar. The Save As dialog box opens.

2. Enter a new name for the service hierarchy and click **Save**. A message informs you about the progress of the save as operation and confirms when the service hierarchy was saved successfully.

See also "Monitoring the Progress of the "Save as" Operation" on page 40.

Monitoring the Progress of the "Save as" Operation

Saving a service hierarchy under a new name can take a long time if the service hierarchy is very large. While the hierarchy is being saved, a message informs you about the progress. Service Configuration also informs you about the successful completion of the operation. Click **Close** to close the Save As Finished dialog box.

If the "save as" operation fails due to insufficient memory on your console system, increase the amount of available memory. See also "Stopping the "Save as" Operation" on page 40.

Stopping the "Save as" Operation

If the "save as" process hangs, you may want to stop it by clicking the **Stop** button in the Save in Progress dialog box. You could also split the service hierarchy into two smaller hierarchies to reduce the size of the data that has to be saved. See also "Monitoring the Progress of the "Save as" Operation" on page 40.

Managing Service Hierarchies

The Service Hierarchy Editor allows you to manage service hierarchies. The service hierarchy that is displayed in the console can only be edited or deleted using the Service Configuration main console.

Service hierarchies are organizational structures that hold child and parent objects. A **parent object** can have more than one child object, and a **child object** can have more than one parent object. A child object can be part of multiple service hierarchies. In each **service hierarchy**, it is treated as a unique object, with a unique name, with its own set of status rules and actions. The top-level object in a service hierarchy is the root object. The status relationship between parent and child objects is determined by rules that define how the status of a child object influences the status of a parent object. After a service hierarchy has been deployed to OVO, it can be accessed as a service view in Service Navigator.

To open the Service Hierarchy Editor:

Select **Tools: Service Hierarchy Editor** from the menu bar.

The Service Hierarchy Editor opens and shows all available service hierarchies. Each service hierarchy is listed with its name and description. You can sort service hierarchies by clicking the appropriate column heading. The summary section of the Service Hierarchy Editor shows more details for a selected service hierarchy.

See "Viewing Available Service Hierarchies" on page 42 for more information about viewing the details of a service hierarchy.

Viewing Available Service Hierarchies

The Service Hierarchy Editor displays a list of all available service hierarchies.

To view *all* available service hierarchies:

Select **Tools: Service Hierarchy Editor** from the menu bar.

The Service Hierarchy Editor opens and shows all available service hierarchies. Each service hierarchy is listed with its name and description. You can sort service hierarchies by clicking the appropriate column heading.

To see the *summary* of a selected service hierarchy:

In the Service Hierarchy Editor, select the service hierarchy in the list of available hierarchies.

A summary of the selected service hierarchy is displayed in the summary section of the Service Hierarchy Editor.

See "Editing a Service Hierarchy" on page 43 for more information about editing the properties of a service hierarchy.

Editing a Service Hierarchy

When you edit a service hierarchy, you can only change its general properties which include the name, the description, and the list of OVO management servers that are used as discovery or target servers. To add or delete root objects, use the Service Configuration console.

To edit a service hierarchy:

1. Open the Service Hierarchy Editor. Select **Tools: Service Hierarchy Editor** from the menu bar. The Service Hierarchy Editor opens.

2. In the Service Hierarchy Editor, double-click the service hierarchy you want to edit or select it and click **Edit...**. The general properties for the hierarchy are displayed.

NOTE   You cannot edit the currently displayed service hierarchy. To edit the properties of the currently displayed service hierarchy, close the Service Hierarchy Editor and select **File: Service Hierarchy Properties...** from the menu bar.

3. Change the general aspects of the service hierarchy, such as the name, description, and selected discovery and target servers.

4. Click **OK** to save your changes and close the dialog box.

See "Duplicating a Service Hierarchy" on page 44 for more information about creating a copy of a service hierarchy of a service hierarchy.

Duplicating a Service Hierarchy

Before you create a new service hierarchy, consider duplicating an existing hierarchy and editing the copy. This may be quicker than creating a new hierarchy, especially if the hierarchy you have in mind is very similar to an existing hierarchy.

CAUTION   Duplicating a large service hierarchy can be very memory-intensive. If the duplicate operation fails due to insufficient memory on your console system, increase the amount of allocated memory. See also "Monitoring the Progress of the Duplicate Operation" on page 45.

To duplicate a service hierarchy:

1. Open the Service Hierarchy Editor. Select **Tools: Service Hierarchy Editor** from the menu bar. The Service Hierarchy Editor opens.

2. In the Service Hierarchy Editor, select the service hierarchy you want to copy and click **Duplicate...**. A copy of the original service hierarchy is placed into the hierarchy list for you to edit.

3. Select the copy of the service hierarchy and click **Edit...**. You can now modify the copy to match your needs.

4. Click **OK** to save your changes and close the dialog box.

See also "Monitoring the Progress of the Duplicate Operation" on page 45 for more information.

Monitoring the Progress of the Duplicate Operation

Duplicating a service hierarchy can take a long time if the service hierarchy is very large. While the hierarchy is being copied, a message informs you about the progress. Service Configuration also informs you about the successful completion of the operation. Click **Close** to close the Duplicate Finished dialog box.

CAUTION   Duplicating a large service hierarchy can be very memory-intensive. If the duplicate operation fails due to insufficient memory on your console system, increase the amount of available memory. See also "Stopping the Duplicate Operation" on page 45.

Stopping the Duplicate Operation

If the duplicate process hangs, you may want to stop it by clicking the **Stop** button in the Duplicate Progress dialog box. Be aware though that stopping this process may result in inconsistent data and is therefore not recommended.

If you choose to stop the duplicate process, you should delete the resulting incomplete hierarchy and try again. See also "Monitoring the Progress of the Duplicate Operation" on page 45.

Deleting a Service Hierarchy

You can delete any service hierarchy if you are certain that you no longer need it. Any objects within the hierarchy are also deleted if they are not referenced by other parent objects.

To delete a service hierarchy:

1. Open the Service Hierarchy Editor. Choose **Tools: Service Hierarchy Editor** from the menu bar. The Service Hierarchy Editor opens.

2. In the Service Hierarchy Editor, select the service hierarchy that you want to delete and click **Delete...**.

   A confirmation message asks you to confirm that you really want to delete the service hierarchy.

   If you have deleted the last available service hierarchy, online help is presented to help you configure a new hierarchy.

NOTE   You cannot delete the currently displayed service hierarchy. To delete the currently displayed service hierarchy, simply select **File: Delete Service Hierarchy...** from the menu bar. You are then prompted to load another service hierarchy into the console.

Before You Delete a Service Hierarchy

Consider carefully whether you really want to delete a service hierarchy. Deleted service hierarchies cannot be recovered. See also "Deleting a Service Hierarchy" on page 46.

Loading a Service Hierarchy

The Service Configuration console displays only one service hierarchy at a time in the main console but you can easily switch between different service hierarchies as required. Remember to save any changes you may have made to the currently displayed service hierarchy before loading another one.

To load a service hierarchy:

1. Select **File: Load...** from the menu bar. The Load Service Hierarchy dialog box opens.

2. Look for the service hierarchy you want to load. Sort the service hierarchies by clicking the appropriate column heading to help you quickly find the one you want to load.

3. Double-click the service hierarchy or select it and click **Choose**.

   The selected service hierarchy is displayed in the Service Configuration main console.

TIP   A quick and easy way to load a service hierarchy into the console is to use the Service hierarchy drop-down list in the toolbar.

See also "Reloading a Service Hierarchy" on page 38.

Before You Load a Service Hierarchy

Before loading another service hierarchy into view, Service Configuration checks whether there are any unsaved changes in the current hierarchy. If so, a confirmation dialog box is displayed which lets you choose between the following options:

❏ **Yes**—saves the changes you made to the current service hierarchy and loads the selected service hierarchy into the console.

❏ **No**—discards any changes you have made to the current service hierarchy and loads the selected service hierarchy into the console.

❏ **Cancel**—cancels the operation and closes the confirmation message dialog box.

See also "Loading a Service Hierarchy" on page 47.

Changing the General Properties of a Service Hierarchy

Service hierarchies have the following general properties:

Hierarchy name

> Name of the service hierarchy. This name is used to reference the hierarchy within the Service Configuration application.

Description

> Short description of the service hierarchy. This description can, for example, summarize the purpose and content of the service hierarchy.

Discovery server

> OVO management server that is the source for discovered and migrated objects. Service discovery processes on this server feed discovered objects into this service hierarchy. Similarly, the tool cadmexport stores migrated objects in this hierarchy.

> A service hierarchy can have only one or no discovery server.

Target servers

> Associated OVO management server(s) where this service hierarchy will be deployed. This is also the server from where data such as nodes, users, and service names (from OVO messages) is imported.

> Choosing a target server means that only data from that server is available for selection, for example for assigning users to root objects or for selecting hosting nodes for resources. You can also choose multiple target servers for a service hierarchy which allows you to mix data from these servers in the hierarchy. However, when you deploy a service hierarchy that uses data from multiple OVO management servers, only the parts of the service hierarchy relevant for the selected target management server are deployed. See

"Removing OVO Management Servers from Service Hierarchies" on page 51 for more information about removing an OVO management server from a service hierarchy.

To change the general properties of a service hierarchy:

1. Load the service hierarchy into the Service Configuration console:

   a. Select **File: Load...** from the menu bar. The Load Service Hierarchy dialog box opens.

   b. Select the service hierarchy you want to load.

      Sort the service hierarchies by clicking the appropriate column heading to help you quickly find the one you want to load.

   c. Click **Choose**. The selected service hierarchy is displayed in the Service Configuration main console.

2. Double-click the Services object in the map view or select **Service Hierarchy Properties...** from the shortcut menu. Alternatively, select **File: Service Hierarchy Properties...** from the menu bar.

   The dialog box that opens depends on whether you are using the Service Desk integration or not:

   • *No Service Desk integration:*

      The General Properties dialog box opens.

   • *Service Desk integration:*

      A property summary dialog box for the service hierarchy opens, displaying the **Attributes** tab. Click the **General** link to open the General Properties dialog box.

3. Edit the general properties as required.

NOTE   To add or delete root objects of a service hierarchy, use the Service Configuration main console.

4. Click **OK** to save your changes and close the dialog box.

See "Removing OVO Management Servers from Service Hierarchies" on page 51 to learn about removing management servers from a service hierarchy.

Removing OVO Management Servers from Service Hierarchies

When you remove an OVO management server from a service hierarchy, Service Configuration automatically removes all associations this service hierarchy has with data from that server. This affects root objects that are associated with users from that server and child objects that are hosted on nodes from that server. Service names in OVO messages from that server are excluded from message mapping.

To remove an OVO management server from a service hierarchy:

1. Load the service hierarchy into the Service Configuration console:

   a. Select **File: Load...** from the menu bar. The Load Service Hierarchy dialog box opens.

   b. Select the service hierarchy you want to load.

      Sort the service hierarchies by clicking the appropriate column heading to help you quickly find the one you want to load.

   c. Click **Choose**. The selected service hierarchy is displayed in the Service Configuration main console.

2. Select **File: Service Hierarchy Properties...** from the menu bar. The General Properties dialog box opens.

3. Under **Target servers**, clear the check box next to the OVO management server you want to remove.

   A message asks you to confirm that you really want to remove the OVO server from this service hierarchy. Click **Continue** to confirm.

4. Click **OK** to save your changes and close the dialog box.

See also "Configuring OVO Management Servers" on page 169 to learn more about editing the properties of a management server.

About Deployment

When you **deploy** a service hierarchy to an OVO management server, Service Configuration transfers the hierarchy configuration to the target server and activates it there using the *cadmsnd(1M)* tool.

Which parts of a service hierarchy are actually deployed depends on the selected OVO management server: the deployment process filters out any data that is associated with a management server other than the target server. Only data associated with the target server will be deployed. To learn more about the way irrelevant OVO data is filtered, see "Deployment Facts" on page 53.

You can choose between automatic and manual deployment. If you choose automatic deployment, Service Configuration transfers and activates the service hierarchy for you. If you choose manual deployment, Service Configuration saves the service hierarchy to an XML configuration file which you then transfer and activate yourself. See "Deploying Service Hierarchies" on page 54 for details.

If you deploy a service hierarchy automatically, Service Configuration transfers the service hierarchy to the selected target management server and activates it there. Since this process is subject to external influences such as the quality of the network connection, it is recommended that you monitor the progress of the deployment process as described in "Monitoring the Deployment Progress" on page 59.

Deployment Facts

A service hierarchy can include data from multiple OVO management servers to allow for large OVO environments where more than one OVO management server is present. However, since a service hierarchy is deployed to only one OVO management server at a time, what happens to the data related to other servers?

When a service hierarchy is deployed to an OVO management server, the deployment process filters the service hierarchy for data that is relevant for the target management server. This has the following effects:

❑ **Users and root objects**

If the users assigned to the root objects of your service hierarchy are not known on the target management server, the service hierarchy will not be deployed at all. Your service hierarchy must contain at least one root object that is assigned to an OVO user known on the target management server. Only those parts of the service hierarchy will be deployed that start with a root object that is associated with a user who is known on the target management server.

❑ **Hosting nodes for service resources**

If the hosting nodes are not known on or associated with the target management server, the object references to the nodes will not be deployed. This means that all hosting information will be removed by Service Configuration.

❑ **Target nodes for actions**

If the target nodes are not known on or associated with the target management server, the action references to the nodes will not be deployed. This means that all target node information will be removed by Service Configuration.

❑ **Service names in messages**

Before the deployment process starts, it compares the imported service names in messages from the target management server with the strings set up for the objects in the hierarchy. All matching and all hard-coded service names in messages will be deployed.

See "Deploying Service Hierarchies" on page 54 to learn more about the deployment procedure.

Deploying Service Hierarchies

Once you have completed your service hierarchy, that is, added all desired objects, associated appropriate status rules with the objects, and associated actions with your objects, you are ready to **deploy** the hierarchy.

You can choose between automatic and manual deployment:

❏ **Automatic deployment**

If you choose automatic deployment, Service Configuration transfers and activates the service hierarchy for you. See "Automatically Deploying a Service Hierarchy" on page 56 for details.

❏ **Manual deployment**

If you choose manual deployment, Service Configuration saves the service hierarchy to an XML configuration file which you then transfer and activate yourself using the *cadmsnd(1M)* command line tool. See "Manually Deploying a Service Hierarchy" on page 57 for details.

TIP　　　　　You can also use the tool cadm_Deploy to deploy one or more service hierarchies directly from the command line.

The deployed data complies with the operations.dtd. This DTD is available on the OVO management server in the following location:

`/etc/opt/OV/share/conf/OpC/mgmt_sv/dtds/operations.dtd`

The deployment process does not deploy graphic files used as icons or backgrounds for objects. You must transfer these files manually to the OVO management server and place them into the directory `/opt/OV/www/htdocs/ito_op/images`.

When deploying service hierarchies with identical root objects (same name and label), Service Configuration prefixes the name of the service hierarchy to the name of the root objects so that the root object is unique within Service Navigator. The labels remain unchanged.

NOTE The deployment process always *overwrites* the current configuration in the service engine. Make sure to always select all service hierarchies designated for the target server. If a hierarchy is not included in the deployment file, it will be removed from the service engine.

See also "Automatically Deploying a Service Hierarchy" on page 56 and "Manually Deploying a Service Hierarchy" on page 57.

Automatically Deploying a Service Hierarchy

Use the following procedure to deploy a service hierarchy automatically.

To automatically deploy a service hierarchy:

1. Select **File: Deploy Service Hierarchies...** from the menu bar. The Deploy Service Hierarchies dialog box opens.

2. Select the OVO management server to which you want to deploy the service hierarchies. Select only one server per deployment process.

3. Select the service hierarchies you want to deploy. You can select multiple service hierarchies for one OVO management server.

   The list of available service hierarchies includes only those service hierarchies that use the selected OVO management server as target server. See "Changing the General Properties of a Service Hierarchy" on page 49 for more information about target servers.

4. Select or clear the **Don't deploy root objects** option. When selected, the root object layer of the deployed service hierarchies is not deployed to Service Navigator.

   The purpose of root objects is to grant operators access to a branch of a service hierarchy. This administrative layer is not necessarily needed in Service Navigator and can be safely excluded from deployment.

5. Select the automatic deployment option.

6. Click **OK**. You are prompted to supply a user name and password for the OVO management server. This is usually the user name and password of the OVO administrator.

NOTE   If the connection to the OVO management server fails, Service Configuration may not yet be activated on the target server. For more information about activating Service Configuration on OVO, see the man page *cadmactivate(1M)*.

Service Configuration transfers the service hierarchy to the OVO management server and activates it there. A message informs you about the progress of the deployment. See "Monitoring the Deployment Progress" on page 59 for more information.

Manually Deploying a Service Hierarchy

Use the following procedure to save a service hierarchy in XML format and to deploy the XML file manually.

TIP   You can also use the tool cadm_Deploy to deploy one or more service hierarchies directly from the command line. cadm_deploy does not require an XML file as input, it deploys service hierarchies directly to Service Navigator. See "Deploying Service Hierarchies with cadm_Deploy" on page 60 for details.

To manually deploy a service hierarchy:

1. Select **File: Deploy Service Hierarchies...** from the menu bar. The Deploy Service Hierarchies dialog box opens.

2. Select the OVO management server to which you want to deploy the service hierarchies. Select only one server per deployment process.

3. Select the service hierarchies you want to deploy. You can select multiple service hierarchies for one OVO management server.

    The list of available service hierarchies includes only those service hierarchies that use the selected OVO management server as target server. See "Changing the General Properties of a Service Hierarchy" on page 49 for more information about target servers.

4. Select or clear the **Don't deploy root objects** option. When selected, the root object layer of the deployed service hierarchies is not deployed to Service Navigator.

    The purpose of root objects is to grant operators access to a branch of a service hierarchy. This administrative layer is not necessarily needed in Service Navigator and can be safely excluded from deployment.

5. Select the manual deployment option and type the name of the resulting XML file into the **File name** field.

    Click the lookup button next to the File name field to browse the directories and files on your system. If you choose the name of an existing file, the content of this file will be overwritten with the new information.

6. Click **OK**. Service Configuration writes the XML file to the specified location on your system.

7. You can now copy the XML file to the OVO management server and activate it using the cadmsnd tool as user root:

   /opt/OV/bin/OpC/cadmsnd < *<YourFile.xml>*

   See the man page *cadmsnd(1M)* on the OVO management server for more information about the cadmsnd tool.

NOTE   Although it is possible to re-import a deployed XML file, this function is not supported. If a deployed XML file is re-imported using the opcsvcterm command, the imported hierarchies have a different appearance, and require manual editing to restore their original appearance.

See also "Automatically Deploying a Service Hierarchy" on page 56.

Before You Deploy a Service Hierarchy

Before deploying the currently loaded service hierarchy, Service Configuration checks whether there are any unsaved changes in the hierarchy. If so, a confirmation dialog box is displayed which lets you choose between the following options:

❏ **Yes** — saves the changes you made to the current service hierarchy before deploying it.

❏ **No** — discards any changes you have made to the current service hierarchy before deploying it.

❏ **Cancel** — cancels the operation and closes the confirmation message dialog box.

See also "Monitoring the Deployment Progress" on page 59.

Monitoring the Deployment Progress

Before Service Configuration begins with the data transfer, it verifies the user name and password you have given to access the OVO management server. Once the user name and password have been verified, the deployment process begins and data is being transferred to the OVO management server.

Once the deployment process is complete, a message confirms that the deployment process finished successfully. Click **Close** to close the Deployment Finished dialog box.

See also "Stopping the Deployment Process" on page 59.

Stopping the Deployment Process

The deployment data consists of multiple data segments that are being processed sequentially. If you stop the deployment process, you can only stop the transfer of the data segment that is currently being transferred. The segments that were transferred to the OVO management server before deployment is stopped cannot be removed by the stop operation. Stopping the deployment process is therefore not recommended because it may result in inconsistent data.

If you do have to stop the deployment process, for example because you have deployed the wrong service hierarchy or because the process hangs, you should redeploy the correct configuration to the OVO management server. This will overwrite the incomplete data deployed by any previous deployments.

See also "Monitoring the Deployment Progress" on page 59.

Before Overwriting an Existing XML File

Service Configuration can save your service hierarchies in XML file format if you want to deploy a service hierarchy manually.

If an XML file with the specified name already exists, a confirmation dialog box opens to inform you about the existing file. Click **Continue** to overwrite the existing file with the new information, or click **Cancel** to close the confirmation dialog box and specify a different file name.

NOTE   If you choose to overwrite the existing file, all data in that file will be lost and cannot be recovered.

See also "Manually Deploying a Service Hierarchy" on page 57.

Deploying Service Hierarchies with cadm_Deploy

The tool cadm_Deploy lets you deploy service hierarchies to Service Navigator from the command line. To deploy service hierarchies on a regular basis, schedule a task on the computer where the Service Configuration client is installed.

To deploy service hierarchies with cadm_Deploy:

1. Make sure the service hierarchies you want to deploy are saved.

2. Make sure the application server is running.

3. Execute the tool cadm_Deploy.bat on the system where the Service Configuration console is running:

   cadm_Deploy [-r] -o *\<OVOServerName\>* -p *\<Password\>*
   -h *\<HierarchyName\>* [*\<HierarchyName\>* ...]
   -s *\<UserSettingsFile\>*

   For example:

   ```
   cadm_Deploy.bat -o server.bbn.hp.com -p OpC_adm
   -h Example_Service_Operation_View -s "C:\Program
   Files\Hewlett-Packard\OpenView\service configuration
   client\user_settings.xml"
   ```

   See the *Service Configuration Reference Guide* for more information about the tool cadm_Deploy.

Support

Please visit the HP OpenView web site at:

http://www.managementsoftware.hp.com/

This web site provides contact information and details about the products, services, and support that HP OpenView offers.

You can also go directly to the support web site at:

http://support.openview.hp.com/

HP OpenView online software support provides customer self-solve capabilities. It provides a fast and efficient way to access interactive technical support tools needed to manage your business. As a valuable support customer, you can benefit by using the support site to:

- Search for knowledge documents of interest

- Submit and track progress on support cases

- Manage a support contract

- Look up HP support contacts

- Review information about available services

- Enter discussions with other software customers

- Research and register for software training

Most of the support areas require that you register as an HP Passport user and log in. Throughout the site, access levels are indicated by the following icons:

 HP Passport

 Active contract

 Premium contract

To find more information about access levels, go to the following URL:

http://support.openview.hp.com/access_level.jsp

To register for an HP Passport ID, go to the following URL:

https://passport.hp.com/hpp2/newuser.do

2   Configuring Objects

Finding Objects in a Service Hierarchy

In service hierarchies with many objects, it can sometimes be difficult to locate a single object. However, by defining simple search criteria, you can quickly find any object in a service hierarchy. You can base your search on the object's attributes and on its associations:

❏ **Attributes tab**

Lets you specify a search pattern based on the attributes of an object, for example, the name or the description. See "Finding Objects Using the Attributes Tab" on page 65.

❏ **Associations tab**

Lets you specify a search pattern based on the associations an object has with other objects, for example associations with calculation rules. See "Finding Objects Using the Associations Tab" on page 67.

The objects found by your search comply to all criteria you entered on both tabs. The matching objects are displayed on the Objects Found tab. See "Showing Found Objects in a Service Hierarchy" on page 69 for more information.

NOTE   Only a limited set of attributes and associations is available for selection as search criteria.

Finding Objects Using the Attributes Tab

Use the following procedure to find objects based on their attributes. The search is case-sensitive.

To find objects using the Attributes tab:

1. Select **Tools: Find in Service Hierarchy...** from the menu bar. The Find in Service Hierarchy dialog box opens and displays the By Attribute tab by default.

2. The **Object type** field displays Hierarchy object as the type of object that will be searched. This setting cannot be changed.

3. Select the attribute you want to use from the **Field** drop-down menu.

   You can choose from a variety of attributes, including an entry relating to parent objects. This entry refers to the object's association to its parent object. For example, to search for all discovered objects in a hierarchy, select **Parent objects: Discovered** from the menu; or, to search for all objects that have a particular weight, select **Parent objects: Weight** from the menu and type the weight you are looking for into the **Value** field.

4. Select the operator you want to use from the **Operator** drop-down list.

5. Type the value you want to match in the **Value** field or select it from the list.

6. Click **Add Criteria** to add the criterion to the summary of search criteria. To edit the criterion, double-click it in the summary summary section or select it and click **Edit**.

7. To add additional criteria, repeat steps 3 through 6.

   If you add more than one criterion to the list, only objects that meet *all* of the search criteria are found.

8. Click **Find Now** to start the search. The results of your search are displayed on the Objects Found tab. See "Showing Found Objects in a Service Hierarchy" on page 69 for more information.

   Or, select the By Association tab to add additional search patterns based on the object's associations. See "Finding Objects Using the Associations Tab" on page 67.

9. When you have found the object you are looking for, select it on the Objects Found tab and click **Show in Service Hierarchy**. If you are not satisfied with the search results, revise your search criteria and try again.

TIP   To remove a single criterion, select it and click **Remove**. Click **Clear** to remove all criteria at once.

See also "Finding Objects Using the Associations Tab" on page 67.

Finding Objects Using the Associations Tab

Use the following procedure to find objects based on their associations. The search is case-sensitive.

To find objects using the Associations tab:

1. Select **Tools: Find in Service Hierarchy...** from the menu bar. The Find in Service Hierarchy dialog box opens and displays the By Attribute tab by default.

   Select the By Association tab.

2. The **Object type** field displays `Hierarchy object` as the type of object that will be searched. This setting cannot be changed.

3. Select the associated object type you want to use from the **Field** drop-down menu.

4. Select the operator you want to use from the **Operator** drop-down list.

5. Type the value you want to match in the **Value** field or select it from the list.

6. Click **Add Criteria** to add the criterion to the summary of search criteria. To edit the criterion, double-click it in the summary summary section or select it and click **Edit**.

7. To add additional criteria, repeat steps 3 through 6.

   If you add more than one criterion to the list, only objects that meet *all* of the search criteria are found.

8. Click **Find Now** to start the search. The results of your search are displayed on the Objects Found tab. See "Showing Found Objects in a Service Hierarchy" on page 69 for more information.

   Or, select the By Attributes tab if you want to add additional search patterns based on the object's attributes. See "Finding Objects Using the Attributes Tab" on page 65.

9. When you have found the object you are looking for, select it on the Objects Found tab and click **Show in Service Hierarchy**. If you are not satisfied with the search results, revise your search criteria and try again.

TIP   To remove a single criterion, select it and click **Remove**. Click **Clear** to remove all criteria at once.

See also "Finding Objects Using the Attributes Tab" on page 65.

Showing Found Objects in a Service Hierarchy

The objects that match the search criteria are listed on the Objects Found tab. If no objects were found, refine your search criteria and start another search. Note that searches are always case-sensitive.

If a child object has more than one parent object, the search displays all parent-child object pairs. Identical parent-child object pairs are listed only once. When highlighting an instance of an identical parent-child object pair, Service Configuration choose the child object with the smallest internal object identifier (OID).

To show a found object in a service hierarchy:

1. Define your search patterns as described in "Finding Objects Using the Attributes Tab" on page 65 and "Finding Objects Using the Associations Tab" on page 67.

2. Click **Find Now** to start the search. The search results are displayed on the Objects Found tab.

3. Work with the search results:

   • *No results*

     If the search process does not find any objects that match your search criteria, it responds with the statement `No results`. In this case you should revise your search criteria and start the search again. To edit a criterion, double-click it in the summary summary section or select it and click **Edit**.

   • *Objects found*

     If the search process is successful, it displays a list of matching objects on the Objects Found tab. Double-click the desired object or select it and click **Show in Service Hierarchy**. This highlights the object in the service hierarchy.

4. Click **Close** to close the Find in Service Hierarchy dialog box if it is still open.

See also "Finding Objects Using the Attributes Tab" on page 65 and "Finding Objects Using the Associations Tab" on page 67.

About Object Properties

Objects in Service Configuration are logical or physical entities that are characterized by two aspects: attributes and associations:

❑ **Attributes**

An **object** has a distinct set of attributes depending on its role (root or child object). Object attributes can be generally divided into two main categories: attributes that describe the object itself, and attributes that define how the status of the object influences the status of its parent object (status rules). See "About Object Attributes" on page 71 for more information.

❑ **Associations**

An object usually does not stand alone, but is associated with other objects. For example, a parent object can only be a parent if it is associated with a child object, and likewise a child object is usually associated with one or more parent objects. Associations also include, for example, responsible users for root objects, and actions and hosted-on relationships for child objects.

See "About Object Associations" on page 73 for more information.

About Object Attributes

An object has a distinct set of attributes depending on its role (root or child object). Object attributes can be generally divided into two main categories: attributes that describe the object itself, and attributes that define how the status of the object influences the status of its parent object (status rules).

The object attributes are presented in summary form on the Attributes tab of the object's property dialog box. This tab helps you to quickly get an overview over the configuration of the object. If you want to edit an attribute, click the corresponding link on the tab. A property edit dialog box for that attribute opens where you can make changes.

NOTE   Links to system-provided calculation and propagation rules are disabled because system-provided rules cannot be edited.

To view object attributes:

1. Select the object in the Service Configuration console.

2. Double-click the object to display its properties. You can also select **Object Properties...** from the shortcut menu or select **Edit: Object Properties...** from the menu bar. Alternatively, click the **Object Properties** toolbar button. A property summary dialog box for the selected object opens, displaying the **Attributes** tab by default.

3. You may need to scroll through the summary section of the Attributes tab to view all attributes.

NOTE   The list of attributes on the Attributes tab may vary depending on whether you are viewing the properties of a root or of a child object, and on whether you are using the Service Desk integration or not.

4. Click a link on the **Attributes** tab to open an edit dialog box where you can change the attribute. See "Configuring Object Attributes" on page 75 for more information about changing the attributes of an object.

5. Click the **Close** toolbar button or select **File: Close** from the menu bar of the object properties dialog box to close the dialog box.

See "Configuring Object Attributes" on page 75 to learn how to configure the attributes of an object.

About Object Associations

An object usually does not stand alone, but is associated with other objects. For example, a parent object can only be a parent if it is associated with a child object, and likewise a child object is usually associated with one or more parent objects. Associations also include, for example, responsible users for root objects, and actions and hosted-on relationships for child objects.

The associations of an object are presented in summary form on the Associations tab of the object's property dialog box. This tab helps you to quickly get an overview over the most important objects that are currently associated with the object. If you want to learn more about the associated objects, you can use the menus in the menu bar of the dialog box to view the properties or the status summary of the associated objects.

To view object associations:

1. Select the object in the Service Configuration console.

2. Double-click the object to display its properties. You can also select **Object Properties...** from the shortcut menu or select **Edit: Object Properties...** from the menu bar. Alternatively, click the **Object Properties** toolbar button. A property summary dialog box for the selected object opens, displaying the Attributes tab by default.

3. Select the **Associations** tab.

   The Associations tab displays folders for the different types of associations. Click the + (plus) sign next to an association group or double-click the association group to expand the folder.

NOTE   The list of associations on the Associations tab may vary depending on whether you are viewing the properties of a root or of a child object.

4. Select an associated object on the **Associations** tab and double-click it or select **File: Properties** to view the properties of the associated object. To view the status summary of a child object, select the child object on the tab and select **Actions: Object Status Summary**.

   See "Viewing the Properties of Associated Objects" on page 114 and "Viewing the Status Summary of Associated Objects" on page 115 for more information.

5. Click the **Close** toolbar button or select **File: Close** from the menu bar of the object properties dialog box to close the dialog box.

See "Working with Associated Objects" on page 110 to learn how to work with the associations of an object.

Configuring Object Attributes

The attributes of an object can be divided into two categories: attributes that describe the object itself (such as name, label, description, presentation, and so on), and attributes that define how the status of the object influences the status of the parent object (such as status rules, weighting, and message status).

The list of attributes may vary depending on whether you are viewing the properties of a root object or of a child object, and on whether you are using the Service Desk integration.

See also "Before you Change the Attributes of an Object" on page 76.

Before you Change the Attributes of an Object

When you modify the attributes of an object that appears in multiple locations in a service hierarchy, each occurrence of the child object will be changed.

In the following example, child object "Object a" appears in three different object branches. In two of these branches "Object a" has the same parent object ("Object A"), in the third branch it has the parent object "Object B". When you modify the attributes of "Object a" in the branch of "Root 3", the object also changes in all other branches.

Figure 2-1   A Child Object with Multiple Parent Objects
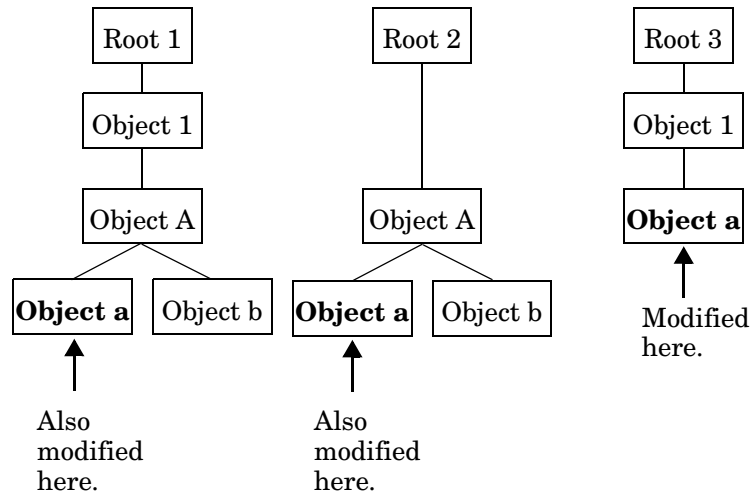
See also "About Object Attributes" on page 71.

Editing General Properties of a Root Object

General properties of a root object include the name, label, description, and a list of OVO users that will be granted access to the service hierarchy in Service Navigator. When viewing the service hierarchy in Service Navigator, the users will see the objects below the root objects in their service views.

To edit general properties of a root object:

1. Select the root object in the Service Configuration console.

2. Double-click the object to display its properties. You can also select **Object Properties...** from the shortcut menu or select **Edit: Object Properties...** from the menu bar. Alternatively, click the **Object Properties** toolbar button. A property summary dialog box for the selected root object opens, displaying the Attributes tab by default.

3. Click the **General** link to open the General dialog box.

4. Edit the name, label, and description of the root object as desired.

5. Change the list of users responsible for this root object and its child objects. The list of available users is filtered. It offers only those OVO users that are known on the OVO management server that is associated with the current service hierarchy.

   If your desired user is not present, the service hierarchy may not be associated with the OVO management server on which the user is set up, or the imported data is not up-to-date. Try importing the latest data from OVO as described in "Importing Data from OVO" on page 176.

6. Click **OK** to save your changes and close the dialog box.

See also "Before you Change the Attributes of an Object" on page 76.

Editing General Properties of a Child Object

General properties of a child object include the name, label, description, and a list of OVO nodes that host this resource.

The **Manually changed** setting indicates if manual changes that have been applied to this object will be preserved in case other processes detect the same object and attempt to add it to the Service Configuration repository. Manual changes include all changes to the object's attributes such as name or label, and changes relating to the object's associations, such as associated actions, status rules, or child object rules (Service Desk integration only). Adding a child object does not cause this flag to be set.

The check box is selected by default for all manually added or mapped objects. For discovered or generated objects, the check box is initially not set. However, when you modify a discovered or generated object, Service Configuration automatically selects the check box.

If this check box is *not* selected, and you modify a discovered or generated object, your changes may be overwritten the next time the discovery or generation processes add the same object to the Service Configuration repository. What exactly will be overwritten depends on the input. For example, service hierarchy rules do not contain information about associated actions and will therefore not overwrite the object's associations to actions. Neither will the discovery processes overwrite the object's mapping to a Service Desk object or associations to child object rules.

To edit general properties of a child object:

1. Select the child object in the Service Configuration console.

2. Double-click the object to display its properties. You can also select **Object Properties...** from the shortcut menu or select **Edit: Object Properties...** from the menu bar. Alternatively, click the **Object Properties** toolbar button. A property summary dialog box for the selected child object opens, displaying the Attributes tab by default.

3. Click the **General** link to open the General dialog box.

4. Edit the name, label, and description of the child object as desired.

5. If your object is a hosted resource, you can change the list of nodes that host this resource. Use the **Add...** and **Remove** buttons to add and remove nodes.

NOTE   In the list of available nodes, some nodes cannot be selected because they are not associated with the OVO management server that is associated with the current service hierarchy.

6. **Manually changed**: when selected, changes to the object are protected from being overwritten by discovery or service hierarchy rules.

7. Click **OK** to save your changes and close the dialog box.

"Enhancing Object Labels in Service Navigator" on page 85 describes how to display additional object labels in Service Navigator.

See also "Before you Change the Attributes of an Object" on page 76.

Changing the Way an Object is Presented

You can customize the way an object is presented in both the Service Configuration console and the Service Navigator operator console by changing the icon, background, and presentation depth for the object.

See Table 2-1 for a list of presentation properties you can change.

To customize presentation properties:

1. Select the object in the Service Configuration console.

2. Double-click the object to display its properties. You can also select **Object Properties...** from the shortcut menu or select **Edit: Object Properties...** from the menu bar. Alternatively, click the **Object Properties** toolbar button. A property summary dialog box for the selected child object opens, displaying the Attributes tab by default.

3. Click the **Presentation** link to open the Presentation dialog box.

4. **Icon:** Specify an icon for the object. Click the lookup button next to the File field to browse the list of available files. See also "Selecting a Graphic File for Icons and Backgrounds" on page 82.

5. **Background:** Choose a background graphic for the object. Click the lookup button next to the Background graphic field to browse the list of available files. See also "Selecting a Graphic File for Icons and Backgrounds" on page 82.

6. **Presentation depth:** Choose how many levels of objects will be displayed below this object.

7. Click **OK** to save your changes and close the dialog box.

Service Configuration supports only file names. Absolute path names, relatives path names, and URLs are not supported. The files for icons and background graphics must be available both on the Service Configuration client and on the OVO management server in the following directories:

❏ **Service Configuration client**

    C:\Program Files\Hewlett-Packard\OpenView\
    service configuration client\images

❏ **OVO management server**

    /opt/OV/www/htdocs/ito_op/images

If you choose files that are not supplied with Service Navigator or Service Configuration, you must transfer them manually from your client system to the OVO management server. Graphic files are not transferred by the deployment process.

Table 2-1   **Object Presentation Properties**

Attribute	Description	Default	Requirements
Icon	Icon that represents the object in the Service Navigator and Service Configuration consoles.		• Format: CompuServe Graphics Interchange (gif)
	If you do not specify the icon for a root object, Service Configuration uses the default icon shown here. The icon field in the database is blank, and when you deploy the hierarchy Service Navigator may display a different icon.		• Must have transparent background to display the severity color in Service Navigator.
	If you do not specify the icon for a child object, Service Configuration uses the default icon shown here. The icon field in the database is blank, and when you deploy the hierarchy Service Navigator may display a different icon.		• Size: 32 x 32 pixels; resized to 16 x 16 pixels. Although Service Configuration also correctly resizes larger graphics, Service Navigator is not capable of handling them.
	Service Desk objects use the default icon for their object type.		• The file name must not exceed 50 characters.
Background graphic	Graphic that is used as a background for an object in the Service Configuration result pane and in Service Navigator service graphs. The background color is determined by the default Windows setting for the desktop (selected in Control Panel: Display Properties: Appearance tab). See "Enhancing Service Navigator Submaps" on page 87 for information about changing the background in Service Navigator submaps.		• Format: CompuServe Graphics Interchange (gif) • Size: any; resized automatically. • The file name must not exceed 50 characters.
Depth	Number of hierarchical levels displayed for the object. The default is two (2): this includes the object itself and one more level below the object.	2	n/a

See also "Before you Change the Attributes of an Object" on page 76.

Selecting a Graphic File for Icons and Backgrounds

When you select a graphic file to be used as icon or background for objects, you can choose from a pool of graphics that come with Service Configuration. All graphic files reside in the following directory on the Service Configuration client system:

```
C:\Program Files\Hewlett-Packard\OpenView\
service configuration client\images
```

You can select any graphic from this list but be aware of the restrictions described in Table 2-1 on page 81.

To select a graphic file for icons and backgrounds:

1. Select the object in the Service Configuration console.

2. Double-click the object to display its properties. You can also select **Object Properties...** from the shortcut menu or select **Edit: Object Properties...** from the menu bar. Alternatively, click the **Object Properties** toolbar button. A property summary dialog box for the selected object opens, displaying the Attributes tab by default.

3. Click the **Presentation** link to open the Presentation dialog box.

4. Click the lookup button next to the File and Background graphic fields to select a custom object icon or background. A dialog box with a list of graphic files opens. The term "Default" next to a graphic indicates that this graphic is the default selection for this object.

5. Select the graphic you want to use. See Table 2-1 on page 81 for more information about supported formats and sizes. A preview of each graphic is displayed next to the file name.

   If you want to use custom graphics that are not included in the list, put the graphic files into the following directory on the Service Configuration client system:

   ```
   C:\Program Files\Hewlett-Packard\OpenView\
   service configuration client\images
   ```

NOTE   Remember to manually transfer custom graphic files from the client system to the OVO management server into the directory /opt/OV/www/htdocs/ito_op/images. Graphic files are not transferred as part of the deployment process.

6. Double-click the selected graphic file or click **Choose** to select a graphic and close the dialog box. The selected graphic is now displayed and listed in the Presentation dialog box.

7. Click **OK** or **Apply** in the Presentation dialog box to save your changes

See also "Removing the Background from an Object" on page 84.

Removing the Background from an Object

You can change the object background displayed in the Service Configuration result pane and in Service Navigator service graphs. By default, the background color for objects is determined by the default Windows setting for the desktop (selected in Control Panel: Display Properties: Appearance tab). However, you can also choose a graphic file to be displayed as object background as described in "Selecting a Graphic File for Icons and Backgrounds" on page 82.

Use the following procedure to remove a custom background graphic from an object.

To remove the background from an object:

1. Select the object in the Service Configuration console.

2. Double-click the object to display its properties. You can also select **Object Properties...** from the shortcut menu or select **Edit: Object Properties...** from the menu bar. Alternatively, click the **Object Properties** toolbar button. A property summary dialog box for the selected object opens, displaying the Attributes tab by default.

3. Click the **Presentation** link to open the Presentation dialog box. The Background graphic field displays a preview and the name of the graphic file that is currently used.

4. Click the lookup button next to the Background graphic field. A dialog box with a list of graphic files opens.

5. Click **None** to remove the background from the object and close the dialog box. The Background graphic field in the Presentation dialog box indicates that no background graphic is selected.

6. Click **OK** or **Apply** in the Presentation dialog box to save your changes

See also "Selecting a Graphic File for Icons and Backgrounds" on page 82.

Enhancing Object Labels in Service Navigator

In Service Navigator, the object label appears below the object's icon in the shortcut bar, in service graphs, in service submaps, and in custom service maps. Additional text or image labels can also be displayed by object icons. An unlimited number of labels can be applied to an icon, the practical limitation being the space available on the display.

Additional labels can be used to display information that is important for monitoring the object. For example, the CPU load of the systems that are hosting the service can be displayed as a numerical value and as a bar graph for at-a-glance information. An example of how these labels can be applied to object icons is shown in Figure 2-2.

There are two ways of setting additional object labels:

❏ **Static labels**

You can add additional labels by defining special user-defined attributes in the Service Configuration console. Labels set in this way change only when the attributes are updated in Service Configuration and the service hierarchies are redeployed to Service Navigator. The Service Navigator console loads updated attributes only at start-up. Labels set in this way are therefore considered to be static.

See "Reserved User-defined Attributes" on page 93 for list of reserved user-defined attributes.

❏ **Dynamic labels**

Attribute values can also be added dynamically, directly to Service Navigator, without the need to use the Service Configuration console and to restart Service Navigator. This has the advantage that Service Navigator is always updated with the latest attribute values and the operator is always presented with the latest service information.

Setting service attributes dynamically is described in detail in the *Service Navigator Concepts and Configuration Guide*.

Figure 2-2   **Objects with Additional Labels in Service Navigator**
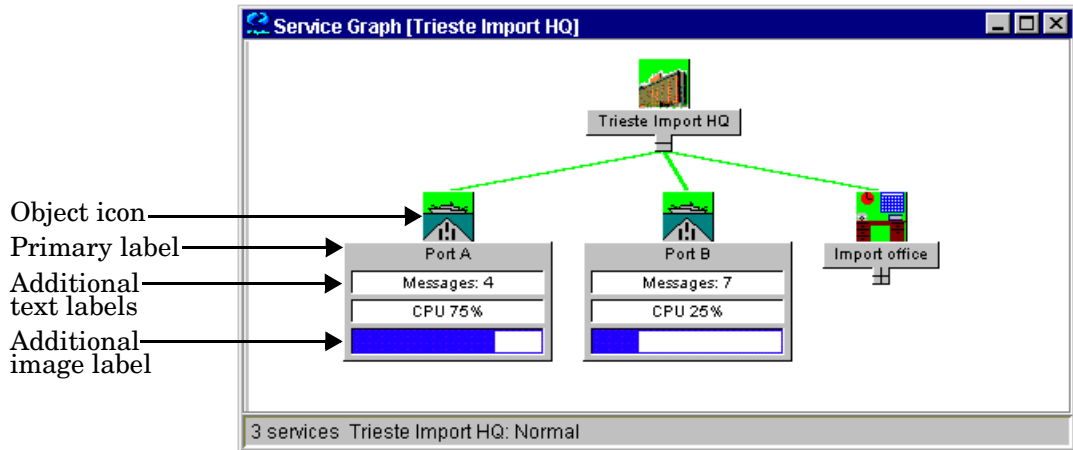
See also "Enhancing Service Navigator Submaps" on page 87.

Enhancing Service Navigator Submaps

In Service Navigator, service submaps can display alternative background images for objects, for example a network schematic or a country map. Object icons can be positioned on the background image to create a clearer overview of the objects being managed. For example, you can position object icons over their geographical locations on a country map.

NOTE   The background presentation property of objects determines the background used in the Service Configuration result pane and in Service Navigator service graphs. See also "Changing the Way an Object is Presented" on page 80.

Figure 2-3 shows the service submap of the "Friuli branch" object in Service Navigator. The "Friuli branch" object has some child objects located on the submap background and others without positional information placed in the lower pane.

In Service Configuration, submap information can be specified for each object by adding special user-defined attributes to the object. See "Reserved User-defined Attributes" on page 93.

Figure 2-3   An Enhanced Service Submap in Service Navigator

Service submap
for Friuli branch

Child object with
positional information

Child objects without
positional information
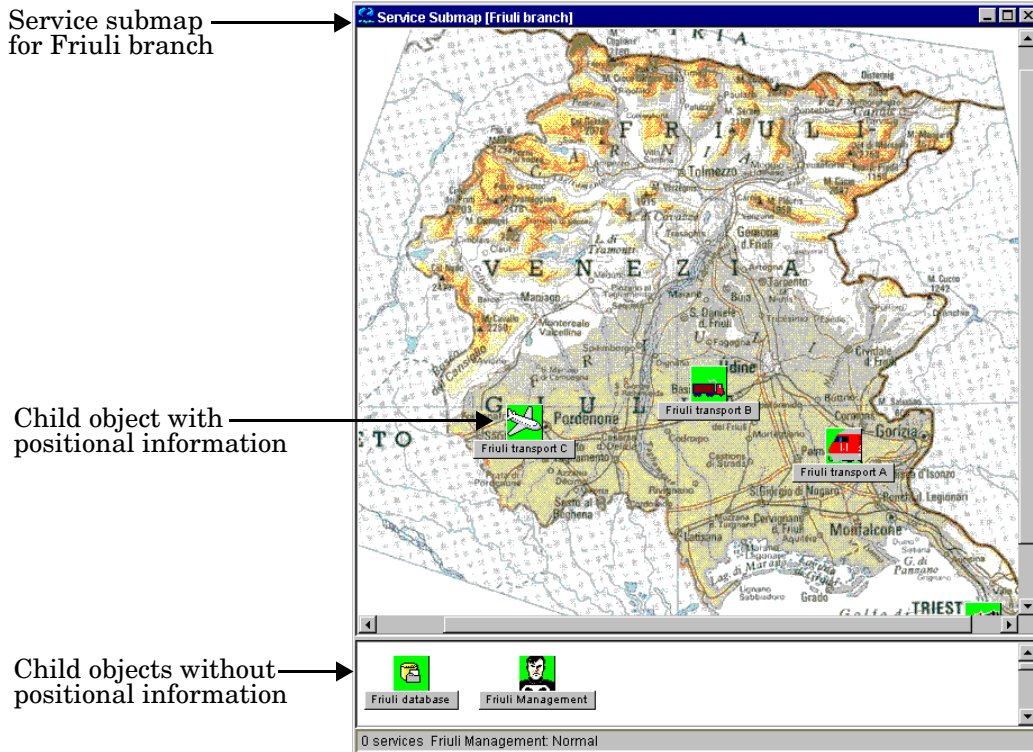
See also "Enhancing Object Labels in Service Navigator" on page 85.

Configuring Status Logging

Status logging is important when you want to generate reports about the performance of your service delivery. With status logging enabled, Service Navigator keeps a log of each status change in the OVO database. Reports can then retrieve the logs from the OVO database and display the information in graphical or statistical form. You can design and generate your own reports, or use the service reports bundled with HP OpenView Reporter. The *OVO Reporting and Database Schema* describes the status tables and explains how to design and write your own reports.

To configure status logging:

1. Select the object in the Service Configuration console.

2. Double-click the object to display its properties. You can also select **Object Properties...** from the shortcut menu or select **Edit: Object Properties...** from the menu bar. Alternatively, click the **Object Properties** toolbar button. A property summary dialog box for the selected child object opens, displaying the Attributes tab by default.

3. Click the **Status Logging** link to open the Status Logging dialog box.

4. In the Status Logging dialog box, select **Log status information** to collect status information for this object in the OVO database. You can choose between the following options:

   - **Log status information for this object and all child objects**

     Select this option to enable status logging for this object and for all of its child objects.

   - **Level of objects to log**

     Select this option to enable status logging for this object and for its child objects up to a specified hierarchical level. For example, select level one (1) to log the status only of this object, and select two (2) to log the status of this object and of the child objects one level below. You can enter positive integers between 1 and 2147483647.

TIP   If you want to configure status logging for a complete object branch,
                            simply choose the top-level object of that branch and configure status
                            logging for this object and the children of the object. This saves you
                            having to modify the properties of all objects.

                        5. Click **OK** to save your changes and close the dialog box.

NOTE   See the *Service Navigator Concepts and Configuration Guide* for
                            information about managing status logs in the OVO database. For
                            example, you may want to download status logs from the OVO database
                            if the amount of available disk space on the database server is no longer
                            sufficient.

                            See also "Before you Change the Attributes of an Object" on page 76.

Configuring Additional Object Attributes

You can set up user-defined attributes to convey additional information about an object. The attributes you define for this object are displayed as properties of the object in Service Navigator.

User-defined attributes can be referenced by the variable $OPC_SERVICE_VALUE[*name*] which can be used in the command string of actions.

Some attribute names are reserved for internal use by Service Navigator. They are used to achieve special effects in the Service Navigator GUI. See "Reserved User-defined Attributes" on page 93.

To configure user-defined attributes:

1. Select the object in the Service Configuration console.

2. Double-click the object to display its properties. You can also select **Object Properties...** from the shortcut menu or select **Edit: Object Properties...** from the menu bar. Alternatively, click the **Object Properties** toolbar button. A property summary dialog box for the selected child object opens, displaying the Attributes tab by default.

3. Click the **User-defined Attributes** link to open the User-defined Attributes dialog box.

4. Click **New...** to open a dialog box where you can enter the name and value of the attribute. See "Specifying User-defined Attributes" on page 92.

5. When you are satisfied with the list of attributes, click **OK** to save your changes and close the dialog box.

TIP   To edit a user-defined attribute, double-click the attribute in the list or select it and click **Edit...**. Use the **Delete** button to delete an attribute.

See also "Before you Change the Attributes of an Object" on page 76.

Specifying User-defined Attributes

A user-defined attribute consists of a name and a value, also known as **attribute name-value pair**.

User-defined attributes can be referenced by the variable $OPC_SERVICE_VALUE[*name*] which can be used in the command string of actions.

Some attribute names are reserved for internal use by Service Navigator. They are used to achieve special effects in the Service Navigator GUI. See "Reserved User-defined Attributes" on page 93.

To specify user-defined attributes:

1. Open the User-defined Attributes dialog box as described in "Configuring Additional Object Attributes" on page 91

2. In the User-defined Attributes dialog box, click **New...** to open a dialog box where you can enter the name and value of the attribute.

3. In the **Attribute name** field, type the name of your attribute (max 50 characters). This is a required field.

4. In the **Value value** field, type the value for your attribute (max 255 characters). This is a required field.

5. Click **OK** to save the attribute and close the dialog box.

   The attribute is now listed in the User-defined Attributes dialog box.

See also "Configuring Additional Object Attributes" on page 91.

Reserved User-defined Attributes

The following attribute names are reserved for internal use by Service Navigator. They are used to achieve special effects in the Service Navigator GUI:

❏ **Labeling object icons**

- ov_label<n>

See also "Enhancing Object Labels in Service Navigator" on page 85.

❏ **Enhancing service submaps**

- ov_background
- ov_map_width
- ov_map_height
- ov_posX
- ov_posY

See also "Enhancing Service Navigator Submaps" on page 87.

Table 2-2 **ov_label<*n*>**

Attribute name	ov_label<*n*>
Description	Defines additional labels for object icons. *<n>* determines the position of the label below the object icon. Must be a positive integer.
Attribute value	The value of the attribute can be one of the following: • *<string>* Specifies label text. • ov_image:*<image>* Specifies an image to be displayed as label. *<image>* must either be the full path to the image in the file system on the management server or a URL (http or ftp).
Example	Attribute name: ov_label1 Attribute value: First Label Attribute name: ovlabel2 Attribute value: Second Label

Table 2-3 **ov_background**

Attribute name	**ov_background**
Description	Defines an image to be displayed on the background of the submap of an object.
Attribute value	ov_image:*<image>* *<image>* must either be the full path to the image in the file system on the management server or a URL (http or ftp).
Example	Attribute name: ov_background Attribute value: ov_image:/etc/opt/OV/share/ backgrounds/italy.gif

Table 2-4 **ov_map_width**

Attribute name	**ov_map_width**

Table 2-4   **ov_map_width (Continued)**

Description	Defines the width of a submap background in pixels.
Attribute value	*<string>* *<string>* must be a positive integer. The value is defined in pixels.
Example	Attribute name: ov_map_width Attribute value: 100

Table 2-5   **ov_map_height**

Attribute name	**ov_map_height**
Description	Defines the height of a submap background in pixels.
Attribute value	*<string>* *<string>* must be a positive integer. The value is defined in pixels.
Example	Attribute name: ov_map_height Attribute value: 100

Table 2-6   **ov_posX**

Attribute name	**ov_posX**
Description	Defines the position of the center of the object icon on the x axis of the submap of the parent object (in pixels).
Attribute value	*<string>* *<string>* must be a positive integer. The value is defined in pixels.
Example	Attribute name: ov_posX Attribute value: 50

Table 2-7   **ov_posY**

Attribute name	**ov_posY**
Description	Defines the position of the top of the object icon on the y axis of the submap of the parent object (in pixels).
Attribute value	*<string>* *<string>* must be a positive integer. The value is defined in pixels.
Example	Attribute name: ov_posY Attribute value: 50

Viewing the Association to Parent Objects

The origin of child objects in a service hierarchy can be one of the following:

❏ **Service hierarchy rules** (Service Desk integration only)

The **Generated** check box indicates that the child object is added to Service Configuration based on service hierarchy rules. Service hierarchy rules work like filters that you set up for filtering Service Desk objects. Service Desk objects that pass the conditions of the filter are added to the service hierarchy.

Service hierarchy rules are only available with the Service Desk integration.

❏ **Service discovery**

If the **Discovered** check box is selected, the child object is added to Service Configuration through service discovery processes. Some HP OpenView Smart Plug-ins (SPIs) offer special service discovery features which generate service hierarchies automatically. See the SPI documentation for more information about service discovery features.

❏ **Manually added**

The **Manually added** check box indicates whether the child object is manually added to the service hierarchy.

The **Excluded from the service hierarchy** check box indicates if a generated or discovered child object was excluded from the hierarchy by the user. Excluding a generated or discovered child object means that the object no longer contributes to the status of its parent object. In addition, excluded objects are not deployed to Service Navigator. The next time the generation or discovery processes run and do not find the excluded object, it is removed completely from Service Configuration.

TIP   Excluded objects are by default hidden in the console. To show excluded objects, select the **Show Excluded Objects** menu item in the View menu of the Service Configuration console.

To view the association to parent objects:

1. Select the object in the Service Configuration console.

2. Double-click the object to display its properties. You can also select **Object Properties...** from the shortcut menu or select **Edit: Object Properties...** from the menu bar. Alternatively, click the **Object Properties** toolbar button. A property summary dialog box for the selected child object opens, displaying the Attributes tab by default.

3. Click the link to the desired parent object below the **Association to parent object** entry. The Association to Parent Object dialog box opens.

4. The dialog box shows the parent object and indicates how the child object was added to the parent.

   Select or clear the **Excluded from the service hierarchy** check box as required.

5. Click **OK** to save your changes and close the dialog box.

See also "Before you Change the Attributes of an Object" on page 76.

Setting Object Status

The following two factors determine the status of an object:

❏ **Child objects**

The statuses of child objects influence the statuses of their parent objects.

❏ **Messages targeting the object**

The messages targeting an object influence the status of the object, just as other child objects do. Among all relevant messages, the message with the most severe status is used for status calculation.

You can determine the way these two factors influence the calculation of the object's severity by doing the following:

❏ **Calculation rules**

You can choose the algorithm that is used to calculate the status of an object as described in "Associating Calculation Rules with Objects" on page 101.

❏ **Propagation rules**

You can choose the way the status of child objects and messages is presented to the parent object. This is described in "Associating Propagation Rules with Child Objects" on page 102.

❏ **Weighting**

You can give some child objects or messages more importance than other child objects. See "Setting Status Weighting for Child Objects and Messages" on page 104 for details.

Viewing the Status Summary of an Object

The status summary of an object includes information about the calculation rule used by the object itself, the propagation rules and weighting factors used by the child objects, and information about which OVO messages map to, and therefore influence the status of the object.

Follow the links in this dialog box to directly access the status rules.

NOTE   Links to system-provided calculation and propagation rules are disabled because system-provided rules cannot be edited.

To view the status summary of an object:

1. Select the object in the Service Configuration console.

2. Select **Show Object Status Summary...** from the shortcut menu or select **Actions: Show Object Status Summary...** from the menu bar. Alternatively, click the **Show Object Status Summary** toolbar button. The status summary dialog box for the selected object opens.

3. Review the status summary in the dialog box.

4. Click **Close** to close the status summary dialog box.

See also "Associating Calculation Rules with Objects" on page 101.

Associating Calculation Rules with Objects

The way an object was added to Service Configuration determines which calculation rule it uses by default:

❑ **Added by service hierarchy rules** (Service Desk integration only)

Objects added by service hierarchy rules by default use the `Most critical` calculation rule.

❑ **Added through service discovery**

Objects added by service discovery of HP OpenView Smart Plug-ins (SPIs) use the calculation rule specified by the SPI. See the SPI documentation for more information.

❑ **Manually added**

Manually added objects by default use the `Most critical` calculation rule.

Use this procedure to associate another calculation rule with an object.

To associate a different calculation rule with an object:

1. Select the object in the Service Configuration console.

2. Double-click the object to display its properties. You can also select **Object Properties...** from the shortcut menu or select **Edit: Object Properties...** from the menu bar. Alternatively, click the **Object Properties** toolbar button. A property summary dialog box for the selected object opens and displays the Attributes tab.

3. Click the **Status Calculation** link to open the Calculation Rule Editor. The Calculation Rule Editor opens with the currently used rule highlighted in the list of available rules.

4. Select a new rule. The editor displays a summary of the rule to give you a brief overview of its configuration.

5. Double-click the rule or click **Choose** to choose the rule and close the Calculation Rule Editor.

   The properties of the object now list the new rule.

See also "Associating Propagation Rules with Child Objects" on page 102.

Associating Propagation Rules with Child Objects

The way a child object was added to Service Configuration determines which propagation rule it uses:

❏ **Added by service hierarchy rules** (Service Desk integration only)

Objects added by service hierarchy rules by default use the Unchanged propagation rule.

❏ **Added through service discovery**

Child objects added by service discovery of HP OpenView Smart Plug-ins (SPIs) use the propagation rule specified by the SPI. See the SPI documentation for more information.

❏ **Manually added**

Manually added child objects use the Unchanged propagation rule by default.

Use this procedure to associate another propagation rule with a child objects.

To associate a different propagation rule with child objects:

1. Select the parent object in the Service Configuration console.

2. Double-click the object to display its properties. You can also select **Object Properties...** from the shortcut menu or select **Edit: Object Properties...** from the menu bar. Alternatively, click the **Object Properties** toolbar button. A property summary dialog box for the selected parent object opens and displays the Attributes tab.

3. For each child object, follow the link below the **Status Propagation from Child Objects** link to open the Propagation Rule Editor. The Propagation Rule Editor opens with the currently used rule highlighted in the list of available rules.

4. Select a new rule. The editor displays a summary of the rule to give you a brief overview of its configuration.

5. Double-click the rule or click **Choose** to choose the rule and close the Propagation Rule Editor.

   The properties of the parent object now list the new propagation rules used by the child objects.

6. Repeat this procedure for each child object whose propagation rule you want to change.

TIP   To change the propagation rule used by the messages targeting the parent object, click the **Messages** link and choose a new rule in the Propagation Rule Editor.

See also "Setting Status Weighting for Child Objects and Messages" on page 104.

Setting Status Weighting for Child Objects and Messages

You can configure some child objects to be more important than other child objects. This is done by assigning a number which indicates how much more important a particular child object should be than the other contributing child objects (for example, 2 = twice as important, 3 = three times as important). You can choose values between one (1) and ten (10). The process of assigning this value is called status weighting.

All child objects have a default weight of 1 (one). A child object's weight indicates how much the severity of that child object should contribute to the total severity. The weight proportion is calculated by dividing each child object's weight by the sum of the weights of all contributing objects.

To set status weighting for child objects and messages:

1. Select the parent object in the Service Configuration console.

2. Double-click the object to display its properties. You can also select **Object Properties...** from the shortcut menu or select **Edit: Object Properties...** from the menu bar. Alternatively, click the **Object Properties** toolbar button. A property summary dialog box for the selected parent object opens and displays the Attributes tab.

3. Click the **Weighting of Child Objects** link to open the Status Weighting dialog box.

4. In the Status Weighting dialog box, choose the child object that you believe is most important for status and set its value on the scale. Set the importance of other child objects relative to this value.

TIP Click the **Child object** column to sort the child objects by name. This may help you locating the child object you are looking for.

5. Click **OK** to save your changes and close the Status Weighting dialog box.

   The properties of the parent object now display the new weights assigned to the child objects.

See also "Mapping OVO Messages to Objects" on page 105.

Mapping OVO Messages to Objects

The messages targeting an object influence the status of the object just as child objects do. Among all relevant messages, the message with the most severe status is used to calculate the severity. For example, if two messages target the object, one with severity Normal and another with severity Critical, the status Critical influences the severity of the object.

Each message carries a message attribute called "service name". To identify relevant messages, Service Configuration compares this message attribute to strings you set up for the object. If the message matches, it targets the object and its status is used to calculate the severity. A message that matches the name of the object also counts in terms of status calculation. The status of the most severe active message counts. In Service Configuration, one message can target multiple objects. Both active and history messages are compared.

In OVO, message source templates format messages and thus supply values for message attributes. The content of the message attribute "service name" is therefore determined by what the OVO administrator defines in the message source template. Note though that regroup conditions may override the template settings.

If the OVO administrator has not defined any values for the message attribute "service name" in message source templates, in regroup conditions, or in opcmsg commands, the attribute automatically assumes the following values:

<application>:*<object>*@@*<nodename>*

Where:

<application> Message attribute application.

<object> Message attribute object.

<nodename> Message attribute nodename.

NOTE This behavior is activated by default. See "About Default Service Names in Messages" on page 183 for information about deactivating this behavior.

NOTE   Only service names in messages that are already imported into Service
                     Configuration are compared in order to improve run-time performance.
                     See "Importing Data from OVO" on page 176 for more information about
                     importing messages.

To map OVO messages to objects:

1. Select the object in the Service Configuration console.

2. Double-click the object to display its properties. You can also select
   Object Properties... from the shortcut menu or select **Edit: Object
   Properties...** from the menu bar. Alternatively, click the **Object
   Properties** toolbar button. A property summary dialog box for the
   selected object opens and displays the Attributes tab.

3. Click the **Mapping Messages to Objects** link to open the Mapping
   Messages to Objects dialog box.

4. Click **New...** to open the Service Name in Message dialog box and
   enter the string that you want to be matched. See "Specifying Service
   Name in Message Strings" on page 108 for details. Note that the
   total length of service names in message strings must not exceed
   4000 characters per object.

   When you click **OK** in the Service Name in Message dialog box, the
   string is added to the list of service names in messages.

5. Click **Get Matches** to compare the specified strings with the imported service names in messages. Matching service names in messages appear in the preview list. If the expected service names do not appear, try importing the latest data from OVO as described in "Importing Data from OVO" on page 176. Remember that pattern matching is case-sensitive.

String without wildcard characters, are, for your convenience, not compared but added directly to the preview list. This is because you may have entered the service name already in your message source templates, but not yet generated a message in OVO. In this case, Service Configuration cannot find the service name in the list of imported service names in messages although you know that it exists.

Note that all entries in the preview list are considered attributes of the object and will be deployed to Service Navigator. It is not possible to select individual entries.

6. Click **OK** to save your changes and close the Mapping Messages to Objects dialog box.

The properties of the object now display the service name strings that must be matched by messages so that they target the object.

The next time the Mapping Messages to Objects dialog box is opened, the preview list is empty again. Click **Get Matches** to fill the list again.

TIP   To edit a service name string, double-click it or select it and click **Edit...**. If you want to delete a service name string, select it and click **Delete**.

See also "Specifying Service Name in Message Strings" on page 108.

Specifying Service Name in Message Strings

Service name in message strings are strings that must be matched by an OVO message for the message to target the object. You can choose between entering strings with or without wildcard characters. Matching is case-sensitive.

Before entering service name in message strings, make sure you know what needs to be matched. The OVO administrator may have configured message source templates or regroup conditions with service names. Or a default service name attribute may be supplied by OVO itself. In this case, the service name attribute has the following format:

<application>:*<object>*@@*<nodename>*

Where:

<application>   Message attribute application.

<object>   Message attribute object.

<nodename>   Message attribute nodename.

In some cases, the service name attribute always has the same value. This depends on how OVO generates default service names. See "About Default Service Names in Messages" on page 183 for details.

To specify service name in message strings:

1. Open the Mapping Messages to Objects dialog box as described in "Mapping OVO Messages to Objects" on page 105.

2. In the Mapping Messages to Objects dialog box, click **Add...** to open the Service Name in Message dialog box.

3. Enter the string that you want to be matched (max 999 characters). Remember that matching is case-sensitive.

   You can choose between entering strings with or without wildcard characters. The following wildcard characters are available:

   *   (Asterisk) Matches any string.

   ?   (Question mark) Matches any character.

TIP   The shortcut menu provides quick access to cut, copy, and paste functions as well as to valid wildcard characters.

4. Click **OK** to add the string to the list of service names in messages in the Mapping Messages to Objects dialog box.

See also "Mapping OVO Messages to Objects" on page 105.

Working with Associated Objects

An object usually does not stand alone, but is associated with other objects. For example, a parent object can only be a parent if it is associated with a child object, and likewise a child object must be associated with at least one parent object.

Associations include all relations an object has to other objects in Service Configuration. Since actions, hosted-on relationships, and even users are also seen as "objects" within the Service Configuration application, object relations to those "objects" also count as associations.

All associations of an object are listed on the Associations tab of the property dialog box of that object. The list of associations varies, depending on whether you are viewing the properties of a root object or of a child object, and of course on what *is associated* with the object. For example, if no actions are associated with an object, the list of associations does not include any actions.

You can perform the following tasks with object associations:

❏ **Add actions to child objects**

  You can associate actions with the object whose properties you are currently viewing. See "Adding Actions to Objects" on page 112 for details.

❏ **Add child object rules to objects** (Service Desk integration only)

  You can associate child object rules with objects that are not mapped to Service Desk objects.

❏ **Viewing properties of associated objects**

  You can view the properties of some associated objects. This depends on the type of object. For example, you can display the properties of actions, child objects, and parent objects. You cannot view the properties of user (root objects only) because Service Configuration does not have enough information about the imported user to be able to display it. See "Viewing the Properties of Associated Objects" on page 114 for details.

❏ **Viewing the status summary of associated objects**

If the associated object is a parent or child object, you can display the status summary for that object. See "Viewing the Status Summary of Associated Objects" on page 115 for details.

Adding Actions to Objects

Actions are set up individually using the Action Editor. Since they are treated as shared objects within the Service Configuration application, you set up an action only once and can then associate it with multiple objects. Be careful when changing an action because the change may affect multiple objects.

You cannot associate actions with root objects.

TIP   A quick and easy way to associate an action with an object is to select the object in the result pane of the Service Configuration console and to choose **Actions: Add Actions...** from the menu bar.

To add actions to objects:

1. Select the object whose associations you want to view in the Service Configuration console. Note that you cannot associated actions with root objects.

2. Double-click the object to display its properties. You can also select **Object Properties...** from the shortcut menu or select **Edit: Object Properties...** from the menu bar. Alternatively, click the **Object Properties** toolbar button. A property summary dialog box for the selected object opens, displaying the Attributes tab by default.

3. Select the **Associations** tab.

4. Select **Actions: Add Actions...** from the dialog menu or click the **Add Actions** toolbar button. The Action Editor opens.

5. In the Action Editor, choose an action from the list by selecting the appropriate check box. You can select more than one action if desired.

TIP   Sort actions by label to help you locate the action you are looking for.

6. Double-click the selected action or click **Choose** to choose the action(s) and close the Action Editor.

The associated action is now listed on the Associations tab. If necessary, expand the list of associated actions by clicking the **+** (plus) sign or double-clicking the Actions grouping.

NOTE   To disassociate an action from an object, select the action on the Associations tab and select **Actions: Remove** from the dialog menu. This does not delete the action, only the association to the object.

See also "Viewing the Properties of Associated Objects" on page 114.

Viewing the Properties of Associated Objects

If the information on the Associations tab does not provide you with enough information about the associated object(s), you can view properties for individual associated objects as described here.

To view the properties of an associated object:

1. Select the object whose associations you want to view in the Service Configuration console.

2. Double-click the object to display its properties. You can also select **Object Properties...** from the shortcut menu or select **Edit: Object Properties...** from the menu bar. Alternatively, click the **Object Properties** toolbar button. A property summary dialog box for the selected object opens, displaying the Attributes tab by default.

3. Select the **Associations** tab.

4. If necessary, expand the list of associated objects by double-clicking the group or clicking the **+** (plus) sign.

5. Double-click the associated object, or select **Edit: Properties** from the dialog menu. Alternatively, click the **Properties** toolbar button. Properties for the associated object are displayed.

6. When you have finished viewing the properties, close the corresponding dialog box.

See also "Viewing the Status Summary of Associated Objects" on page 115.

Viewing the Status Summary of Associated Objects

If the associated object is a parent or child object, you can display the status summary for that object. The status summary of an object includes information about the calculation rule used by the object itself, the propagation rules and weighting factors used by the child objects, and information about which OVO messages map to, and therefore influence the status of the object.

To view the status summary of an associated object:

1. Select the object whose associations you want to view in the Service Configuration console.

2. Double-click the object to display its properties. You can also select **Object Properties...** from the shortcut menu or select **Edit: Object Properties...** from the menu bar. Alternatively, click the **Object Properties** toolbar button. A property summary dialog box for the selected object opens, displaying the Attributes tab by default.

3. Select the **Associations** tab.

4. If necessary, expand the list of associated objects by double-clicking or by clicking the **+** (plus) sign.

5. Double-click the associated object, or select **Edit: Properties** from the dialog menu. Alternatively, click the **Properties** toolbar button. Properties for the associated object are displayed.

6. When you have finished viewing the properties, close the corresponding dialog box.

3   Configuring Status

TIP   Use the interactive **status calculation tutorial** to learn more about
status calculation. This tutorial is only available when running the
Service Configuration console on Windows. To start the tutorial, select
Help: Status Calculation Tutorial from the menu bar.

Managing Propagation Rules

The Propagation Rule Editor allows you to manage all aspects of propagation rules. This is your main tool for configuring, editing, and deleting propagation rules.

The statuses of most objects in the service hierarchy are calculated from the messages associated with the object and its child objects. Status propagation refers to how an object represents its status to its parent objects.

Service Configuration provides a selection of the most commonly used propagation rules. These rules are marked as system rules in the Propagation Rule Editor. The system rules cannot be edited or deleted.

To open the Propagation Rule Editor:

Select Tools: Propagation Rule Editor from the menu bar.

The Propagation Rule Editor opens and shows all available propagation rules. Each rule is listed with its name, the rule type (system or user-defined), and a short description. You can sort rules by clicking the appropriate column heading. The summary section of the Propagation Rule Editor displays more details for the selected rule.

See also "Viewing Available Propagation Rules" on page 120.

Viewing Available Propagation Rules

The Propagation Rule Editor displays a list of all available propagation rules.

To view *all* available propagation rules:

Select **Tools: Propagation Rule Editor** from the menu bar.

The Propagation Rule Editor opens and shows all available propagation rules. Each rule is listed with its name, the rule type (system or user-defined), and a short description. You can sort rules by clicking the appropriate column heading.

To see the *summary* of a selected propagation rule:

In the Propagation Rule Editor, select the propagation rule in the list of available propagation rules.

A summary of the selected propagation rule is displayed in the summary section of the Propagation Rule Editor.

See also "Creating a New Propagation Rule" on page 121.

Creating a New Propagation Rule

You can create a new propagation rule, or you can duplicate an existing propagation rule and change it as necessary.

NOTE   Only create new propagation rules when you are sure that the existing system-provided propagation rules do not meet your requirements.

To create a new propagation rule:

1. Open the Propagation Rule Editor. Choose **Tools: Propagation Rule Editor** from the menu bar. The Propagation Rule Editor opens.

2. In the Propagation Rule Editor, click **New...**. The New Propagation Rule dialog box opens.

   You can also select an existing propagation rule and click **Duplicate...**. A copy of the original propagation rule is placed into the propagation rule list for you to edit.

3. Configure the propagation rule as necessary. See "Propagation Rule Properties" on page 124 for detailed information about all available options.

4. Click **OK** to save your new propagation rule. The propagation rule appears in the list of available rules in the Propagation Rule Editor.

See also "Editing a Propagation Rule" on page 122.

Editing a Propagation Rule

When you edit a propagation rule, you can change the name, the description, and the rule definition. You can only edit user-defined rules.

Propagation rules are shared objects within the Service Configuration application which means that changes to a rule affect all dependencies that use the rule.

When you attempt to edit a shared propagation rule, Service Configuration asks you whether you want to edit the rule anyway, whether you want to duplicate it and edit the copy, or whether you want to cancel your edits.

To edit a propagation rule:

1. Open the Propagation Rule Editor. Choose **Tools: Propagation Rule Editor** from the menu bar. The Propagation Rule Editor opens.

2. In the Propagation Rule Editor, double-click the propagation rule that you want to change or select it and click **Edit...**. System rules cannot be edited.

   The Edit Propagation Rule dialog box opens.

3. In the Edit Propagation Rule dialog box, make the necessary changes. For detailed information about each propagation rule option, see "Propagation Rule Properties" on page 124.

4. Click **OK** to confirm your changes.

See also "Deleting a Propagation Rule" on page 123.

Deleting a Propagation Rule

You can only delete user-defined propagation rules. System-provided propagation rules cannot be deleted.

TIP   Before deleting a propagation rule, ensure that the rule is no longer used because rules that are referenced by objects cannot be deleted. The easiest way to identify all objects that use a particular propagation rule is to use the Find in Service Hierarchy tool as described in "Finding Objects in a Service Hierarchy" on page 64.

After you have removed propagation rules from objects, first save the service hierarchy, then delete the rules.

To delete a propagation rule:

1. Open the Propagation Rule Editor. Choose **Tools: Propagation Rule Editor** from the menu bar. The Propagation Rule Editor opens.

2. In the Propagation Rule Editor, select the propagation rule that you want to delete and click **Delete...**. You can only delete user-defined rules.

   A confirmation message asks you to confirm that you really want to delete the propagation rule.

See also "Before You Delete a Propagation Rule" on page 123.

Before You Delete a Propagation Rule

Before deleting a propagation rule, ensure that the rule is no longer used by objects because rules that are referenced by objects cannot be deleted.

The easiest way to identify all objects that use a particular propagation rule is to use the Find in Service Hierarchy tool as described in "Finding Objects in a Service Hierarchy" on page 64. After you have removed propagation rules from objects, first save the service hierarchy, then delete the rules.

Consider carefully whether you really want to delete a propagation rule. Deleted propagation rules cannot be recovered.

Propagation Rule Properties

Propagating rules have the following properties:

Rule name

> Name of the propagation rule (max 255 characters). This is the name under which the propagation rule is listed in Service Configuration, for example in the Propagation Rule Editor.

Description

> A short sentence that describes the rule (max 4000 characters). Although the description is optional, it is important to provide one because it is visible in the Propagation Rule Editor.

Set critical to

> If the object has the severity Critical, its status will be propagated as specified. If the status of the object is to be ignored, choose Ignore.

Set major to

> If the object has the severity Major, its status will be propagated as specified. If the status of the object is to be ignored, choose Ignore.

Set minor to

> If the object has the severity Minor, its status will be propagated as specified. If the status of the object is to be ignored, choose Ignore.

Set warning to

> If the object has the severity Warning, its status will be propagated as specified. If the status of the object is to be ignored, choose Ignore.

Set normal to

> If the object has the severity Normal, its status will be propagated as specified. If the status of the object is to be ignored, choose Ignore.

Managing Calculation Rules

The Calculation Rule Editor allows you to manage all aspects of calculation rules. This is your main tool for configuring, editing, and deleting calculation rules.

Calculation rules let you indicate the threshold value that is used to determine the status of an object. This status is calculated from the severity of the messages assigned to that object and from the statuses of any child objects.

Service Configuration provides a selection of the most commonly used calculation rules. These rules are marked as system rules in the Calculation Rule Editor. The system rules cannot be edited or deleted.

To open the Calculation Rule Editor:

Select **Tools: Calculation Rule Editor** from the menu bar.

The Calculation Rule Editor opens and shows all available calculation rules. Each rule is listed with its name, the rule type (system or user-defined), and a short description. You can sort rules by clicking the appropriate column heading. The summary section of the Calculation Rule Editor displays more details for the selected rule.

See also "Viewing Available Calculation Rules" on page 126.

Viewing Available Calculation Rules

The Calculation Rule Editor displays a list of all available calculation rules.

To view *all* available calculation rules:

Select **Tools: Calculation Rule Editor** from the menu bar.

The Calculation Rule Editor opens and shows all available calculation rules. Each rule is listed with its name, the rule type (system or user-defined), and a short description. You can sort rules by clicking the appropriate column heading.

To see the *summary* of a selected calculation rule:

In the Calculation Rule Editor, select the calculation rule in the list of available calculation rules.

A summary of the selected calculation rule is displayed in the summary section of the Calculation Rule Editor.

See also "Creating a New Calculation Rule" on page 127.

Creating a New Calculation Rule

You can create a new calculation rule, or you can duplicate an existing calculation rule and change it as necessary.

Only create new calculation rules when you are sure that the existing system-provided calculation rules do not meet your requirements.

To create a new calculation rule:

1. Open the Calculation Rule Editor. Choose **Tools: Calculation Rule Editor** from the menu bar. The Calculation Rule Editor opens.

2. In the Calculation Rule Editor, click **New...**. The New Calculation Rule dialog box opens.

   You can also select an existing calculation rule and click **Duplicate...**. A copy of the original calculation rule is placed into the calculation rule list for you to edit.

3. Configure the calculation rule as necessary. See "Calculation Rule Properties" on page 130 for detailed information about all available options.

4. Click **OK** to save your new calculation rule. The calculation rule appears in the list of available rules in the Calculation Rule Editor.

See also "Editing a Calculation Rule" on page 128.

Editing a Calculation Rule

When you edit a calculation rule, you can change the name, the description, and the rule definition. You can only edit user-defined rules.

Calculation rules are shared objects within the Service Configuration application which means that changes to a rule affect all dependencies that use the rule.

When you attempt to edit a shared calculation rule, Service Configuration asks you whether you want to edit the rule anyway, whether you want to duplicate it and edit the copy, or whether you want to cancel your edits.

To edit a calculation rule:

1. Open the Calculation Rule Editor. Choose **Tools: Calculation Rule Editor** from the menu bar. The Calculation Rule Editor opens.

2. In the Calculation Rule Editor, double-click the calculation rule that you want to change or select it and click **Edit...**. System rules cannot be edited.

   The Edit Calculation Rule dialog box opens.

3. In the Edit Calculation Rule dialog box, make the necessary changes. For detailed information about each calculation rule option, see "Calculation Rule Properties" on page 130.

4. Click **OK** to confirm your changes.

See also "Deleting a Calculation Rule" on page 129.

Deleting a Calculation Rule

You can only delete user-defined calculation rules. System-provided calculation rules cannot be deleted.

TIP   Before deleting a calculation rule, ensure that the rule is no longer used because rules that are referenced by objects cannot be deleted. The easiest way to identify all objects that use a particular calculation rule is to use the Find in Service Hierarchy tool as described in "Finding Objects in a Service Hierarchy" on page 64.

After you have removed calculation rules from objects, first save the service hierarchy, then delete the rules.

To delete a calculation rule:

1. Open the Calculation Rule Editor. Choose **Tools: Calculation Rule Editor** from the menu bar. The Calculation Rule Editor opens.

2. In the Calculation Rule Editor, select the calculation rule that you want to delete and click **Delete...**. You can only delete user-defined rules.

    A confirmation message asks you to confirm that you really want to delete the calculation rule.

See also "Before You Delete a Calculation Rule" on page 129.

Before You Delete a Calculation Rule

Before deleting a calculation rule, ensure that the rule is no longer used by objects because rules that are referenced by objects cannot be deleted.

The easiest way to identify all objects that use a particular calculation rule is to use the Find in Service Hierarchy tool as described in "Finding Objects in a Service Hierarchy" on page 64. After you have removed calculation rules from objects, first save the service hierarchy, then delete the rules.

Consider carefully whether you really want to delete a calculation rule. Deleted calculation rules cannot be recovered.

Calculation Rule Properties

Calculating rules have the following properties:

Rule name

> Name of the calculation rule (max 255 characters).
> This is the name under which the calculation rule is
> listed in Service Configuration, for example in the
> Calculation Rule Editor.

Description

> A short sentence that describes the rule (max
> 4000 characters). Although the description is optional,
> it is important to provide one because it is visible in the
> Calculation Rule Editor.

Threshold type

> You can choose to perform the calculations as a
> percentage or a value:
>
> - **Percent based**
>
>   If you choose a percentage, then the threshold's
>   values will be evaluated as percentages.
>
> - **Count based**
>
>   A count-based threshold interprets the thresholds
>   as integers.
>
> In most cases, a percentage threshold type is
> recommended because it is less rigid than a
> count-based threshold type, and therefore allows you to
> make changes in the number of child objects without
> having to change the calculation rule.

Critical threshold
Major threshold
Minor threshold
Warning threshold

Threshold that, when reached (count-based) or exceeded (percentage-based) by child objects of the same severity (critical, major, minor, warning), causes the status of the parent object to change to the specified severity.

Report as

Status of the parent object after the specified threshold has been reached (count-based) or crossed (percentage-based):

- Normal
- Warning
- Minor
- Major
- Critical

Simulating Status

There are two approaches to setting message status for objects:

❑ **Hierarchy-based approach**

The Simulated Message Editor lets you access all objects and matching service names in messages of a service hierarchy in a single dialog box. See "Setting Message Status Globally" on page 133.

❑ **Object-based approach**

You can also display simulated messages for one object and its service names in messages only. See "Setting Message Status for a Single Object" on page 135.

Setting Message Status Globally

The Simulated Message Editor gives access to all available service names in a service hierarchy. This includes the object names as well as the matching service names in messages. Using the editor has the following advantages:

❑ **Working globally**

The Simulated Message Editor lets you work globally with all objects and service names in messages of a hierarchy.

❑ **Search functions**

The editor lets you search for service names in messages. This is helpful in situations where you do not know the exact location of an object in the hierarchy, or if you only know the name of a service name in message but not which objects are mapped to it.

Note that the list of service names in the editor can become very large and therefore difficult to manage.

CAUTION   Message status information is not persistent. The message status is reset to normal when another hierarchy is loaded, a new hierarchy is created, the hierarchy is saved under another name, the hierarchy is reloaded, and when simulation mode is disabled.

To set message status globally:

1. Select **Tools: Simulation Mode** to enable simulation mode. A check mark appears on the menu item to indicate that simulation mode is enabled. Objects in the scope and result panes now appear with a green background to indicate a normal status.

NOTE   The "Services" object does not have a colored background. It is a placeholder that is not deployed and it has no status.

2. Select **Tools: Simulated Message Editor** to open the Simulated Message Editor. The list of simulated messages is initially empty.

3. Filter the list of simulated messages:

    a.   Choose the filter criteria. You can filter messages by service name and by message severity:

        • *By service name*

           Type the string that you want to be matched. Remember that matching is case-sensitive.

           You can choose between entering names with or without wildcard characters. The following wildcard characters are available:

           * (Asterisk)—Matches any string.

           ? (Question mark)—Matches any character.

        • *By message severity*

           Choose the severity from the list.

    b.   Click **Show Results** to apply the filter. Matching service names and service names in messages appear in the list of simulated messages.

       If the results list is too large, an error message is displayed. Refine the filter to display fewer simulated messages.

4. In the list of simulated messages, select a message severity for each service name. A simulated message can be either critical, major, minor, or warning. In the console, the Messages child object changes color to indicate the new severity. The parent and higher-level objects may also change color according to the configured status propagation and calculation rules.

5. Click **Close** to close the dialog box.

See also "Setting Message Status for a Single Object" on page 135.

Setting Message Status for a Single Object

This approach allows you to concentrate on a single object. The list of simulated messages includes the object names as well as the matching service names in messages.

CAUTION   Message status information is not persistent. The message status is reset to normal when another hierarchy is loaded, a new hierarchy is created, the hierarchy is saved under another name, the hierarchy is reloaded, and when simulation mode is disabled.

To set message status for a single object:

1. Select **Tools: Simulation Mode** to enable simulation mode. A check mark appears on the menu item to indicate that simulation mode is enabled. Objects in the scope and result panes now appear with a green background to indicate a normal status.

2. Select the object, then select **Edit Simulated Messages** from the shortcut menu. Alternatively, select **Actions: Edit Simulated Messages** from the menu bar. The Simulated Messages dialog box opens.

3. In the list of simulated messages, select a message severity for each service name. A simulated message can be either critical, major, minor, or warning.

   a. To find a service name, type a few characters of the service name you are looking for in the **Look for** field.

   b. Click **Find Next**.

      Service Configuration selects the first service name that matches the typed characters. If the service name found is not the one you are looking for, click **Find Next** again or change the characters you typed into the Look for field.

   As soon as a message severity is selected, the Messages child object changes color to indicate the new severity. The parent and higher-level objects may also change color according to the configured status propagation and calculation rules.

4. Click **Close** to close the dialog box.

See also "Setting Message Status Globally" on page 133.

Recalculating Object Status

Because many factors influence **status calculation**, it can be difficult to determine why an object does not have the expected severity. If status simulation shows that something does not work correctly, examine all factors that influence the calculation and adjust them. Then recalculate the simulation to ensure that your modifications correct the problem.

To recalculate object status:

1. If the simulated status does not produce the expected result, change all or one of the following parameters:

   - Propagation rules

   - Calculation rules

   - Weighting

   - Simulated message status

2. Select **File: Save** to save your changes in the service hierarchy. (Simulated message statuses are not saved.)

3. Select **Tools: Recalculate Simulation**.

See also "Managing Propagation Rules" on page 119 and "Managing Calculation Rules" on page 125.

Setting Simulated Messages to Normal

When you need to set simulated messages to normal, you can choose between the following options:

❏ **Setting All Simulated Messages to Normal**

See "Setting All Simulated Messages to Normal" on page 137.

❏ **Setting Simulated Messages of a Single Object to Normal**

See "Setting Simulated Messages of a Single Object to Normal" on page 138.

Setting All Simulated Messages to Normal

When you set the message status to normal, all objects in the hierarchy change their status color to green. This cannot be undone.

To set all simulated messages to normal:

1. Select **Tools: Set All Simulated Messages to Normal**.

   A confirmation message appears asking you to confirm that you really want to set the status of all objects in this service hierarchy to normal.

2. Click **Continue** to confirm. All objects change their status color to green.

See also "Setting Simulated Messages of a Single Object to Normal" on page 138.

Setting Simulated Messages of a Single Object to Normal

When you set the message status of a single object to normal, the color of the Messages child object changes to green. The parent and higher-level objects may also change color according to the configured status propagation and calculation rules.

Other objects in the hierarchy that have the same service names in messages are also affected, because you are resetting messages for both the object name and all matching service names in messages. Setting simulated messages to normal cannot be undone.

To set simulated messages of a single object to normal:

1. Select the object, then select **Set Simulated Messages to Normal** from the shortcut menu. Alternatively, select **Actions: Set Simulated Messages to Normal** from the menu bar.

   A confirmation message appears asking you to confirm that you really want to set the status of this object to normal.

2. Click **Continue** to confirm. The object changes its status color to green.

Disabling Simulation Mode

When you disable simulation mode, all message status will be reset to normal, the background of objects in the console changes to transparent, and all virtual "Messages" child objects disappear. In addition, all menu items that are related to status simulation become unavailable.

To disable simulation mode:

Select **Tools: Simulation Mode**. If the menu item is not checked, the simulation mode is disabled. This is the default setting.

See also "Simulating Status" on page 132.

4   Configuring Actions

Managing Actions

The Action Editor allows you to manage actions. This is your main tool for configuring, editing, and deleting actions. You also select actions in the editor to associate them with objects.

Two types of commands are available for actions: URL and program. When executed on a a **managed node**, URL launches a web browser at a specified URL, program runs a **command**. Actions are shared objects within the Service Configuration application which means that you can associate one action with multiple objects. The advantage of associating actions with objects is that the operator does not have to first select the object in the object pane before running the **action** in the Service Navigator operator console.

To open the Action Editor:

Select **Tools: Action Editor** from the menu bar.

The Action Editor opens and shows all available actions. Each action is listed with its label, the command type (URL or program), and a short description. You can sort actions by clicking the appropriate column heading. The summary section of the Action Editor shows more details for a selected action.

NOTE   The Action Editor displays an additional column with check boxes when opened with the intention to associate actions with an object. To choose an action, double-click the desired action or select the check box next to the action and click **Choose**.

See also "Viewing Available Actions" on page 143.

Viewing Available Actions

The Action Editor displays a list of all available actions.

To view *all* available actions:

Select **Tools: Action Editor** from the menu bar.

The Action Editor opens and shows all available actions. Each action is listed with its label, the command type (URL or program), and a short description. You can sort actions by clicking the appropriate column heading.

To see the *summary* of a selected action:

In the Action Editor, select the action in the list of available actions.

A summary of the selected action is displayed in the summary section of the Action Editor.

See also "Creating a New Action" on page 144.

Creating a New Action

When you create an action, you can choose between creating an action that launches a URL, or an action that executes a command. Depending on your choice, the New Action dialog box displays different options.

You can create a new action, or you can duplicate an existing action and change it as necessary.

To create a new action:

1. Open the Action Editor. Choose **Tools: Action Editor** from the menu bar. The Action Editor dialog box opens.

2. In the Action Editor dialog box, click **New...**. The New Action dialog box opens.

   You can also select an existing action and click **Duplicate...**. A copy of the original action is placed into the action list for you to edit.

3. Configure the action. See "Action Properties" on page 147 for detailed information about all available options.

4. Click **OK** to save your new action. The action appears in the list of available actions in the Action Editor.

See also "Editing an Action" on page 145.

Editing an Action

When you edit an action, you can change all properties except for the command type.

Actions are shared objects within the Service Configuration application which means that changes to an action affect all dependencies that use the action.

When you attempt to edit a shared action, Service Configuration asks you whether you want to edit the action anyway, whether you want to duplicate it and edit the copy, or whether you want to cancel your edits.

To edit an action:

1. Open the Action Editor. Choose **Tools: Action Editor** from the menu bar. The Action Editor opens.

2. In the Action Editor, double-click the action that you want to change or select it and click **Edit...**.

   The Edit Action dialog box opens.

3. In the Edit Action dialog box, make the necessary changes. For detailed information about each action property, see "Action Properties" on page 147.

4. Click **OK** to confirm your changes.

See also "Deleting an Action" on page 146.

Deleting an Action

Before deleting an action, ensure that the action is no longer associated with objects because actions that are referenced by objects cannot be deleted. The easiest way to identify all objects that use a particular action is to generate XML files for all service hierarchies and then search the XML files for the action name. Once you have identified the objects, you can use the Service Configuration console to disassociate the actions.

After you have disassociated actions from objects, first save the service hierarchy, then delete the actions.

To delete an action:

1. Open the Action Editor. Choose **Tools: Action Editor** from the menu bar. The Action Editor opens.

2. In the Action Editor, select the action that you want to delete and click **Delete...**.

   A confirmation message asks you to confirm that you really want to delete the action.

See also "Before You Delete an Action" on page 146.

Before You Delete an Action

Before deleting an action, ensure that the action is no longer associated with objects because actions that are referenced by objects cannot be deleted.

The easiest way to identify all objects that use a particular action is to generate XML files for all service hierarchies and then search the XML files for the action name. Once you have identified the objects, you can use the Service Configuration console to disassociate the actions. After you have disassociated actions from objects, first save the service hierarchy, then delete the actions.

Consider carefully whether you really want to delete an action. Deleted actions cannot be recovered.

Action Properties

Actions have the following properties:

Action name

> This is the name under which the action is listed in Service Configuration, for example in the Action Editor. This is a required field (max 255 characters).

Label

> The action label is used when displaying the action in the popup menu of the Service Navigator operator console. Service Configuration automatically inserts the action name in this field because a label is required for each action (max 80 characters).

Description

> Comments or additional information for the action. The description is optional (max 4000 characters).

Command type

> Two types are available: URL and Program. URL launches a web application on the computer where the Service Navigator operator console is running. Program enables you to specify a command and related parameters.

URL

> For commands of the type URL. This is the URL of the web application to be launched (max 4000 characters). See "Variables in URL Definitions" on page 149 for a list of variables that can be used in URL definitions.

> The application will be displayed in a separate window.

Command

For commands of the type Program. This is the command to be executed (max 4000 characters). See "Variables in Commands" on page 149 for a list of variables that can be used in command strings.

Only output-only and X-applications are supported. X-applications must be redirected to the Service Navigator operator console.

Execute as user

User account under which the action is executed (max 50 characters).

Execute on: Hosting nodes

Before running the action, the operator selects a service in the Service Navigator operator console. The action is executed on all nodes that host this service resource.

Execute on: Server node

The action is executed on the OVO management server.

Execute on: Local node

The action is executed on the system where the Service Navigator operator console is running.

Execute on: Target nodes

List of nodes on which the action will be executed.

NOTE   If you do not select any of the "execute on" options, the action can be successfully associated with an object and it will be deployed, but without any node references.

Using Variables in Actions

You can use variables in commands and URLs of actions to render actions more generic. You can use variables in the command string of program actions and in the URL definition of URL actions:

❑ **Variables in command strings**

   See the section "Variables in Commands" on page 149 for a list of variables that can be used in command strings.

❑ **Variables in URL definitions**

   See the section "Variables in URL Definitions" on page 149 for a list of variables that can be used in variable definitions.

Variables in Commands

The following variables can be used in the command string of actions:

$OPC_SERVICE_LABEL   Returns the label of the object.

$OPC_SERVICE_NAME   Returns the name of the object.

$OPC_SERVICE_NODE   Returns the name of the hosting node, if set.

$OPC_SERVICE_VALUE[name] Returns the value of the user-defined attribute with the name <name>; returns an empty string if not set.

Variables in URL Definitions

The following variables can be used when defining a URL:

$LANG   Returns the language setting of the user who is running the Service Navigator operator console.

$OPC_GUI_CLIENT   Returns the hostname of the client the the Service Navigator operator console is currently running on.

$OPC_MGMTSV   Returns the hostname of the OVO management server.

5   Configuring Nodes

Managing Nodes

The Node Editor allows you to manage **node**s. This is your main tool for configuring, editing, and deleting nodes. You also select nodes in this editor to set them up as target nodes for **action**s or as hosting nodes for **service resource**s. Service Configuration distinguishes between the following types of nodes:

❑ **Imported OVO nodes**

OVO nodes are nodes that are set up as managed nodes in OVO and that have OVO agents running on them. Service Configuration imports nodes from OVO management servers as part of the **import** data process. You cannot edit or delete OVO nodes because they have a read-only status.

❑ **Manually created**

Manually created nodes are nodes that you add in Service Configuration. They are not managed by OVO but OVO can remotely run actions on them. Nodes of this type can be edited and deleted.

To open the Node Editor:

Select **Tools: Node Editor** from the menu bar.

The Node Editor opens and shows all available nodes. Each node is listed with its name and type (imported or manually created). You can sort nodes by clicking the appropriate column heading. The summary section of the Node Editor shows more details for a selected node.

NOTE   Service Configuration sometimes displays Advanced Find instead of the Node Editor. This is the case when more nodes are configured than the Node Editor can display. Use Advanced Find to apply a search criteria to the list of nodes.

To find a node in the Node Editor:

1. To find a node, type a few characters of the node you are looking for in the **Look for** field.

2. Click **Find Next**.

   Service Configuration selects the first node that matches the typed characters. If the node found is not the one you are looking for, click **Find Next** again or change the characters you typed into the Look for field.

3. If there are too many nodes in the list, click the **Advanced Find...** button to define a more sophisticated search pattern.

Service Configuration always searches all columns.

TIP   The term "Filtered" in the title bar of the Node Editor indicates that only those nodes are listed that matched Advanced Find search criteria. Click **Clear Filter** to re-display all available nodes.

See also "Choosing Nodes for Objects or Actions" on page 154.

Choosing Nodes for Objects or Actions

Choose a **node** as hosting node for a **service resource** (child objects only) or as target node for **action**s of the type program.

The Choose Node dialog box is similar to the Node Editor. The only difference between them is that the Choose Node dialog box displays an additional column with check boxes in the list of nodes.

In some instances, check boxes are disabled so that nodes cannot be selected. This is the case when you open the Choose Node dialog box with the intention of choosing a node as a hosting node for service resources. Nodes that are not associated with the same OVO **management server** that is associated with the current **service hierarchy** are not available for selection.

To choose a node:

1. Open the Choose Node dialog box:

   • *To choose hosting nodes for service resources:*

     In the general properties of the child object, select the **Object is a hosted resource** check box and click **Add...**.

   • *To choose target nodes for program actions:*

     When creating a new or editing an existing program action, select the **Target nodes** check box in the Execute on section and click **Add...**.

   The Choose Node dialog box opens.

NOTE   Service Configuration sometimes displays Advanced Find instead of the Choose Node dialog box. This is the case when more nodes are configured than the Choose Node dialog box can display. Use Advanced Find to search for the desired node(s).

2. In the Choose Node dialog box, select the check box next to the node(s) you want to associate with this object or action. If you cannot find the node(s) you are looking for, click **Add...** to create a new node or update the list by importing the latest data from OVO.

a. To find a node, type a few characters of the node you are looking for in the **Look for** field.

b. Click **Find Next**.

Service Configuration selects the first node that matches the typed characters. If the node found is not the one you are looking for, click **Find Next** again or change the characters you typed into the Look for field.

c. If there are too many nodes in the list, click the **Advanced Find...** button to define a more sophisticated search pattern.

Service Configuration always searches all columns.

3. Click **Choose** to select the node(s) and close the Choose Node dialog box.

The nodes are now associated with the object or action. Remember to save the service hierarchy to preserve your changes.

TIP   The term "Filtered" in the title bar of the Choose Node dialog box indicates that only those nodes are listed that matched Advanced Find search criteria. Click **Clear Filter** to re-display all available nodes.

See also "Managing Nodes" on page 152.

Viewing Available Nodes

The Node Editor displays a list of all available nodes.

To view *all* available nodes:

Select **Tools: Node Editor** from the menu bar.

The Node Editor opens and shows all available nodes. Each action is listed with its name. You can sort nodes by clicking the name column heading.

To see the *summary* of a selected node:

In the Node Editor, select the node in the list of available nodes.

A summary of the selected node is displayed in the summary section of the Node Editor.

See also "Creating a New Node" on page 157.

Creating a New Node

The properties of a **node** include the name, the IP address, and the OVO management server(s) where the service hierarchy will be deployed.

You can create a new node, or you can duplicate an existing node and change the copy as necessary.

To create a new node:

1. Open the Node Editor. Choose **Tools: Node Editor** from the menu bar. The Node Editor dialog box opens.

2. In the Node Editor dialog box, click **New...**. The New Node dialog box opens.

   You can also select an existing node and click **Duplicate...**. A copy of the original node is placed into the node list for you to edit.

3. In the **Node name** field, type the fully qualified hostname of the node.

4. In the **IP address** field, type the IP address of the node. OVO uses this IP address to communicate with the node.

TIP   Type `0.0.0.0` to set up a node without an IP address.

5. Select one or more OVO management server(s). Nodes that are used as hosting nodes for service resources will only be available for selection if they are associated with at least one OVO management server and that server must be associated with the service hierarchy where the nodes will be used. This does not affect nodes that are used as target nodes for actions. However, if you do not associate an OVO management server with a node, the deployment process does not deploy the node association because the node is not relevant for the target management server.

6. Click **OK** to save your new node. The node appears in the list of available nodes in the Node Editor.

See also "Selecting an OVO Management Server for a Node" on page 158.

Selecting an OVO Management Server for a Node

When you create a new node, it is good practise to select an OVO management server for the node. Nodes that are used as hosting nodes for service resources will only be available for selection if they are associated with at least one OVO management server and that server is associated with the service hierarchy where the nodes will be used. This does not affect nodes that are used as target nodes for actions. However, if you do not associate an OVO management server with a node, the deployment process does not deploy the node association because the node is not relevant for the target management server.

See also "Removing an OVO Management Server from a Node" on page 159.

Removing an OVO Management Server from a Node

When you disassociate an OVO management server from a node, all hosting associations this node has with other objects will also be removed. Hosting associations are relations between nodes and child objects, and include, for example service resources being hosted on nodes.

Removing an OVO management server does not affect associations of the following type:

❏ **Associations as target node**

Associations as target node for program actions remain. They are not removed because program actions can be executed on any computer, independently of the OVO management server.

❏ **Associations to other management servers**

Hosting associations in other service hierarchies remain if the node and these service hierarchies are both associated with a second OVO management server.

Figure 5-1 on page 160 illustrates this situation: Node X is associated with OVO server A and server B. Node X is used as hosting node for Object 1 in Service Hierarchy I and II. Service Hierarchy I is associated with OVO server A and Service Hierarchy II is associated with OVO server B. When you disassociate OVO server A from Node X, the hosting association in Service Hierarchy I is removed but the one in Service Hierarchy II remains because in this hierarchy, both the node and the hierarchy are associated with OVO server B.

Figure 5-1   **Removing OVO Management Servers from Nodes**

Original configuration:

Service Hierarchy I
(OVO server A)

Child Object 1

Node X
(OVO server A)
(OVO server B)

Service Hierarchy II
(OVO server B)

Child Object 1

Node X
(OVO server A)
(OVO server B)
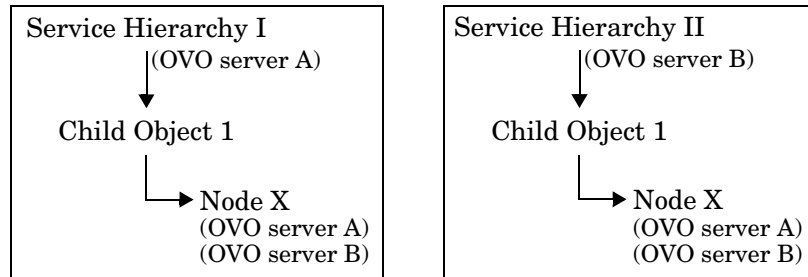
After removing OVO server A from Node X:

Service Hierarchy I
(OVO server A)

Child Object 1

Node X
(OVO server A)
(OVO server B)

Service Hierarchy II
(OVO server B)

Child Object 1

Node X
(OVO server A)
(OVO server B)
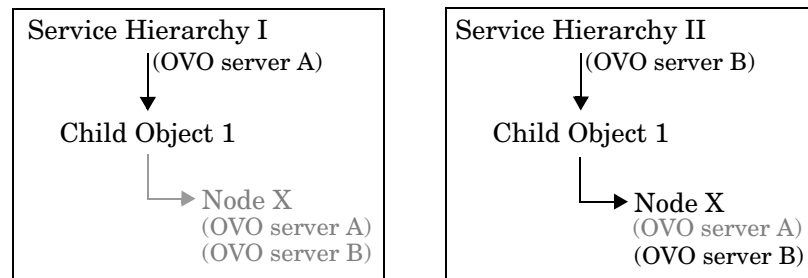
Illustrates an association relationship

Illustrates an association that has been removed

See also "Selecting an OVO Management Server for a Node" on page 158.

Editing a Node

When you edit a node, you can all properties of the node.

NOTE   You cannot edit imported OVO nodes because they have a read-only status in Service Configuration.

To edit a node:

1. Open the Node Editor. Choose **Tools: Node Editor** from the menu bar. The Node Editor opens.

2. In the Node Editor, double-click the node that you want to change or select it and click **Edit...**.

   The Edit Node dialog box opens.

3. In the Edit Node dialog box, make the necessary changes. For detailed information about each node property, see "Node Properties" on page 163.

4. Click **OK** to confirm your changes.

NOTE   The change affects all actions that use this node as a target node and all service resources that are hosted on this node.

See also "Deleting a Node" on page 162.

Deleting a Node

You can only delete nodes that were manually added in Service Configuration. Imported OVO nodes cannot be deleted because they have a read-only status.

If you delete a node that is still associated with one or more objects, for example as a hosting node for service resources or as a target node for actions, the associations to these objects are also deleted.

To delete a node:

1. Open the Node Editor. Choose **Tools: Node Editor** from the menu bar. The Node Editor opens.

2. In the Node Editor, select the node that you want to delete and click **Delete...**.

   A confirmation message asks you to confirm that you really want to delete the node.

See also "Before You Delete a Node" on page 162.

Before You Delete a Node

Consider carefully whether you really want to delete a node. Deleted nodes cannot be recovered.

When you delete a node that is still associated with one or more objects, for example as a hosting node for service resources or as a target node for actions, all associations of the deleted node are also removed.

Node Properties

Nodes have the following properties:

Node name

> This is the name (max 255 characters) under which the node is listed in Service Configuration, for example in the Node Editor.

IP address

> The IP address of the node (max 40 characters). OVO uses this IP address to communicate with the node. The IP address 0.0.0.0 denotes a node without an IP address.

OVO management servers

> List of OVO management servers where you want to deploy the service hierarchy that uses this node.

6   Administering Service Configuration

Configuring General Options

You can configure the following general aspects of Service Configuration:

❏ **OVO management servers**

Shows a list of available OVO management servers. If the list is empty, click **New...** to add an OVO management server to Service Configuration. You can also select any listed management server and click **Edit...** to edit its properties. When you delete an OVO management server, all data imported from that server is also removed.

See "Configuring OVO Management Servers" on page 169 for more information.

❏ **Account**

Account the Service Configuration console uses to connect to the UI server. Click **Change Password...** to change the account password on the client. See "Changing the Password on the Client" on page 180 for more information.

❏ **UI server**

Server to which the Service Configuration console connects. See "Specifying a UI Server" on page 173 for more information.

To open the Options dialog box:

Select Tools: Options... from the menu bar. The Options dialog box opens and displays the General tab.

Configuring Options for Integrations

Service Configuration comes with the following integrations:

❏ **Service Desk Data Forms**

With the Service Desk data form integration configured, operators can launch the Service Desk client console in the context of a particular Service Desk object from within the Service Navigator console. The Service Desk client console displays detailed information about the selected object in a Service Desk data form.

This integration requires an installation of the Service Desk client on the same system as the Service Navigator console. Since the Service Desk client console is only available on Windows, the integration can only run on this platform.

❏ **Service Pages**

The Service Pages application is integrated into the workspace of the Service Navigator operator console so that the operator can launch Service Pages by starting an action from the shortcut menu of the selected service or configuration item. Depending on the selected action, related service calls, incidents, problems, changes, or workorders are displayed.

The integrations work on the basis of actions that call related service calls, incidents, problems, changes, and workorders, or launch Service Desk data forms for a selected Service Desk object. These actions come with the Service Configuration application but must be enabled before they are available to the operator.

See the *Integrating Service Desk with Service Configuration for Service Navigator* guide for more information about the Service Desk integrations.

To configure options for integrations:

1. Select **Tools: Options...** from the menu bar. The Options dialog box opens and displays the General tab.

2. Click the **Integrations** tab.

3. Configure the Service Desk data form integration.

   Select the Service Desk data form integration check box to allow the OVO operator to start a Service Desk data form for a selected object in the Service Navigator operator console. This action requires a Service Desk client console installed on the Service Navigator operator console. The Service Desk client console is only supported on the Windows platform.

4. Configure the Service Pages integration:

   a. Specify the name and port of the Tomcat server for your Service Pages application. Enter the fully qualified hostname of the server and append the port number separated by a colon (:), as shown in the following example:

   Example: `myserver.bbn.hp.com:8080`

   If you do not specify a name, the following defaults will be used:

   `localhost:8080`

   b. Choose the actions you want to enable for Service Desk objects of the type "service" or "configuration item".

NOTE   For Service Desk objects of the type service, only the option **Show Related Service Calls** applies. Objects of the type configuration item support all available options.

5. Click OK to save your changes and close the dialog box.

Configuring OVO Management Servers

Use this procedure to configure OVO management servers for Service Configuration.

To configure OVO management servers:

1. Select **Tools: Options...** from the menu bar to open the Options dialog box.

2. In the Options dialog box, click **New...**. The OVO Management Server dialog box opens.

   If you want to change the configuration of an existing OVO management server, double-click the server in the Options dialog box or select it and click **Edit...**.

3. In the **Name** field, type the hostname of the OVO management server (max 255 characters). This name must match the OVO management server name as specified for your OVO installation:

   • *OVO 7.1*

      Look up the OVO management server name in the `/opt/OV/bin/OpC/install/opcsvinfo` file.

   • *OVO 8.0*

      Look up the OVO management server name in the output of the ovconfget(1) command:

      ovconfget -ovrg server opc OPC_MGMT_SERVER

   The **Name** field is read-only if you are editing an already configured OVO management server.

4. In the **Database name** field, type the name of the OVO database instance you want to connect to (max 4000 characters). Use the following format:

   <OVO_database_instance>@*<server_hostname>*

   Where:

<OVO_database_instance>	Name of the OVO database instance. The default name is openview but the OVO administrator can specify a different name when configuring OVO.
<server_hostname>	Name of the OVO management server you want to connect to.

   Example: openview@myserver

5. The **Port number** field displays the default port Service Configuration uses to communicate with OVO for deployment. See "Changing the Default Port for Deployment" on page 182 for information about additional configuration steps needed if you do not want to use the default port 7280.

6. In the **Character set** field, select the codeset you want to use in the deployed XML file. This determines the codeset the Service Navigator service engine uses to process the XML file.

   Choose **ISO-8859-15** for all Western European languages. If you work with Service Configuration on a Japanese system, you can enter Japanese characters in most name and label fields of dialog boxes. To ensure that the Service Navigator service engine recognizes and processes these Japanese characters, choose **Shift_JIS** as codeset for the XML files deployed to this OVO management server.

7. Click **Import Data...** to start importing data from OVO. You are prompted to supply a password for the OVO database user opc_op. Service Configuration uses the account of this user to connect to the OVO database. The OVO database user opc_op is independent of the operating system user opc_op and the OVO user opc_op. See also "Supplying a User Name and Password for OVO" on page 181.

The imported data includes nodes, users, and service names (from OVO messages). You need nodes as hosts for your services and as target systems for actions; you need users for granting operators access to your service hierarchies, and you will need to know the service names to map messages to objects.

To view the imported data, choose the type of data you are interested in and select the corresponding tab.

8. Click **OK** to save your changes and close the New OVO Management Server dialog box. The new OVO management server is now listed in the Options dialog box.

9. Click **OK** to close the Options dialog box.

NOTE   The import process uses port 1521 which is the default port of the Oracle TNS listener. If you have re-configured Oracle to use a different port, you must append the new port number to the database name in the **Database name** field. The import process will then use the specified port number to connect to the Oracle database.

Example: `openview@server:8145`

See also "Deleting an OVO Management Server" on page 172.

Deleting an OVO Management Server

Before you delete an OVO management server, you should carefully study the effects this has on the service hierarchies that are associated with this server:

❑ **Service hierarchies**

An OVO management server can only be deleted if there are no service hierarchies associated with it. Choose another management server for these hierarchies or delete them. See "Removing OVO Management Servers from Service Hierarchies" on page 51.

❑ **Users**

All imported users of the server will be disassociated from assigned root objects and will be removed.

❑ **Nodes**

All imported nodes of the server will be disassociated from objects and actions and will be removed. Manually added nodes that are associated with the server will only be removed if they are not associated with another server.

❑ **Service names (in OVO messages)**

All imported service names in OVO messages will no longer match any strings you have set up for your objects and will be removed.

To delete an OVO management server:

1. Select **Tools: Options...** from the menu bar. The Options dialog box opens and displays the General tab.

2. Select the OVO management server in the list and click **Delete...**. You are prompted to confirm that you really want to delete the selected OVO management server.

3. Click **OK** to save your changes and close the Options dialog box.

See also "Configuring OVO Management Servers" on page 169.

Specifying a UI Server

For Service Configuration, one or more Service Desk application servers function as **UI server**. By default, the Service Configuration console uses localhost as UI server. This is the default server specified by the installation. If the application server is not installed on the local system or the server processes are not running, the Login dialog box appears where you can specify an alternative UI server.

You can change the UI server for your client console on the General tab of the Options dialog box. After specifying the UI server, test the connection to the server to ensure that the server name is entered correctly. The UI server must be running when the Service Configuration console tries to connect to it, otherwise the communication to the specified server will fail. The next time you start the Service Configuration console you will be automatically connected to the new UI server.

To specify a UI server:

1. Select **Tools: Options...** from the menu bar to open the Options dialog box.

2. Enter the new UI server in the UI server section of the dialog box. Enter the fully qualified hostname of the server.

   If your console is running on the same system as the UI server, type **localhost**.

3. Click **Test Connection...** to test the connection to the specified UI server. If the new UI server responds successfully to the ping command, you receive a confirmation message. If there are any problems with the communication, a message describing the problems appears.

4. Click **OK** in the Options dialog box to save your changes.

   The next time you start the Service Configuration console you will be automatically connected to the new UI server.

TIP   The About Service Navigator Value Pack dialog box shows the account
                  and UI server that are used for the current connection.

                  See also "Changing the Password on the Client" on page 180.

About Importing Data

When you import data from OVO, Service Configuration checks the contents of the OVO database and imports all users, nodes, and service names (in active and history messages) it finds. You will need the nodes as hosts for your service resources and as target systems for actions; you will need users for granting operators access to the service hierarchies, and you will need to know the service names to map messages to objects. See Table 6-1 on page 175 for a list of OVO database tables that are the data source for the import process.

The import process synchronizes the already imported data with the data on the OVO management server. For example, if a user, node, or service name in message no longer exists in OVO, the import process will also delete it from Service Configuration. See "Importing Data from OVO" on page 176.

The import process may take up to 30 minutes depending on the size of the data to be imported, especially on the number of active and history messages. To speed up the import process, ensure that the OVO database does not contain too many active or history messages. Special tools like opchistdwn(1M) are available in OVO to help you manage the number of messages in the database. See the OVO documentation for more information about these tools. A message informs you about the progress of the import process. See "Monitoring the Import Progress" on page 177 for more information.

Table 6-1   Types of Imported Data

Data Type	OVO Database Table
Nodes	opc_node_names
Users	opc_user_data
Service names in messages	opc_service opc_act_messages opc_hist_messages

Importing Data from OVO

Importing data from OVO includes importing OVO nodes, users, and service names (in OVO messages). You will need the nodes as hosts for your service resources and as target systems for actions; you will need users for granting operators access to the service hierarchies, and you will need to know the service names to map messages to objects.

The import process synchronizes the already imported data with the data on the OVO management server. For example, if a user, node, or service name in message no longer exists in OVO, the import process will also delete it from Service Configuration.

To import data from OVO:

1. Select **File: Import Data from OVO Management Server...** from the menu bar to open the Import Data from OVO Management Server dialog box.

2. Select the OVO management server from where you want to import data and click **OK**. A dialog box opens where you can specify a password for the connection to the OVO database.

3. Enter the password for the OVO database user opc_op and click **OK**. If you do not know the password for the OVO database user opc_op, contact your OVO administrator.

   The OVO database user opc_op is independent of the operating system user opc_op and the OVO user opc_op. The OVO administrator sets a password for the database user opc_op when configuring OVO. The OVO administrator can change the password any time using the opcdbpwd tool. See the OVO man page *opcdbpwd(1M)* for more information about this tool.

TIP   Check the properties of the OVO management server to verify the list of imported data. See "Configuring OVO Management Servers" on page 169 for details.

See also "Monitoring the Import Progress" on page 177.

Monitoring the Import Progress

Before Service Configuration begins with the data transfer, it verifies the user name and password you have supplied for access to the OVO database. Once the user name and password have been verified, the import process begins and data is being transferred from the OVO management server.

The import process may take some time, depending on the size of the data to be transferred from OVO to Service Configuration.

Once the import process is complete, a message confirms that the import process finished successfully. Click **Close** to close the Import Finished dialog box.

See also "Stopping the Import Progress" on page 177.

Stopping the Import Progress

If the import process hangs, you can stop it by clicking the **Stop** button. Be aware though that stopping the import process may result in inconsistent data because the already imported data cannot be deleted.

If you do have to stop the import process, for example because the process hangs, you should import the data again from the OVO management server. This will overwrite the incomplete data from the previous import process.

See also "Monitoring the Import Progress" on page 177.

About Managing Passwords

Service Configuration uses passwords on the following occasions:

❏ **Passwords for Service Configuration**

Service Configuration uses the default user account system to allow the client console to connect to the UI server. This account is protected by a password that, when changed on the UI server, should also be updated on the client. See "Changing the Password on the Server" on page 179 and "Changing the Password on the Client" on page 180 for more information.

❏ **Passwords for OVO**

Service Configuration must supply passwords to successfully connect to OVO to import data from OVO and to deploy service hierarchies to OVO. See "Supplying a User Name and Password for OVO" on page 181 for more information.

Changing the Password on the Server

Regularly changing the Service Configuration account password ensures the security of Service Configuration. When you change the password of the Service Configuration user system, remember to notify all users who use the Service Configuration console. They must enter the new password in the Login dialog box the next time they log into Service Configuration. After they have logged in, they can change the password on the client as described in "Changing the Password on the Client" on page 180.

This also changes the password of the account OVO uses to connect to the application server. When you change the password of the Service Configuration user system, remember to also change the password of the Service Configuration connector account. This is described in the *Service Configuration for Service Navigator Installation Guide*.

NOTE   Passwords are case-sensitive. Remember your use of uppercase and lowercase letters when you change the password.

To change the password on the server:

1. Locate the Service Configuration password tool cadm_chgpwd.bat in the bin folder of the client installation:

   ```
   \Program Files\Hewlett-Packard\OpenView\service
   configuration client\bin\cadm_chpwd.bat
   ```

2. Execute the password tool and enter the new password:

   cadm_chpwd <*NewPassword*>

   This immediately changes the password of the Service Configuration accounts on the currently connected UI server.

Changing the Password on the Client

Service Configuration uses an account to allow the client console to connect to the **UI server**. The default account for this connection is the `system` account (default password: `servicedesk`). You can change the password for this account to match the password set on the UI server, but you cannot switch the account itself.

Update the password each time your system administrator changes the password on the UI server as described in "Changing the Password on the Server" on page 179. If you do not update the password, you have to re-enter the new password in the Login dialog box each time you start the Service Configuration console.

To change the password on the client:

1. Select **Tools: Options...** from the menu bar to open the Options dialog box.

2. Click **Change Password...** in the Account section of the Options dialog box.

   The Change Password dialog box opens and displays the user name (`system`) that Service Configuration uses to log on.

3. In the **New password field**, type the new password.

4. In the **Confirm new password** field, type the new password again.

5. Click **OK**.

See also "Changing the Password on the Server" on page 179.

Supplying a User Name and Password for OVO

Service Configuration needs access to OVO for the following processes:

❏ **Import**

When importing data from OVO, Service Configuration accesses the OVO database using the account of the OVO database user opc_op.

The OVO database user opc_op is independent of the operating system user opc_op and the OVO user opc_op. The OVO administrator sets a password for the database user opc_op when configuring OVO. The OVO administrator can change the password any time using the opcdbpwd tool. See the OVO man page *opcdbpwd(1M)* for more information about this tool.

❏ **Deployment**

When deploying service hierarchies to OVO, Service Configuration accesses the OVO service engine using the account of the OVO user opc_adm.

To supply a user name and password for OVO:

1. The OVO User Name and Password dialog box opens when you import data from OVO or when you deploy service hierarchies to OVO.

2. The **User name** field displays the name of the user that will be used for the connection. This user name cannot be changed. It is either opc_op for import processes or opc_adm for deployment processes.

3. In the **Password** field, type the password for the user.

4. Click **OK** to confirm your input and close the dialog box.

See also "Changing the Default Port for Deployment" on page 182.

Changing the Default Port for Deployment

Service Configuration uses a dedicated port when deploying service hierarchies to an OVO management server. This port is 7280 for both the OVO management server and the Service Configuration console.

If you have a firewall between the Service Configuration console and the OVO management server, and you do not want to open the firewall for port 7280, you can change the default port number to a number more suitable for your environment. You need to change the port number on the OVO management server (in the file /etc/services) and in the Service Configuration console.

To change the port on the OVO management server:

1. Edit the file /etc/services with your favorite text editor and locate the following line:

   cadmsnd   7280/tcp   #Common Admin Service Navigator deployment

2. Change the port number to the one you want to use. See the man page *services(4)* for more information about the /etc/services file.

3. Save the modified /etc/services file.

4. Reconfigure the inetd process so that the new port number is recognized:

   HP-UX: **inetd -c**

   Solaris: **kill -sighup <inetd_process_number>**

To change the port on the Service Configuration console:

1. Select **Tools: Options...** from the menu bar to open the Options dialog box.

2. Select an OVO management server in the list and click **Edit...**. The OVO Management Server dialog box opens.

3. Change the port number in the **Port number** field to the one you have entered in /etc/services.

4. Click **OK**.

See also "About Deployment" on page 52.

About Default Service Names in Messages

Service Configuration maps messages to objects based on the message attribute "service name" in all active and history messages. Usually values for this message attribute are supplied by message source templates or regroup conditions. However, since it is somewhat cumbersome to modify and redistribute message source templates or to set up regroup conditions, OVO is by default configured to supply a default service name in all messages. The setting for this is determined by a variable in the OVO configuration settings file on the management server. (The variable is set during the activation of Service Configuration on the OVO management server.)

The name of the variable is OPCSVCM_MSGSVCNAME_DEFAULT. If set to TRUE, all messages automatically assume the following value for their service name attribute:

<application>:*<object>*@@*<nodename>*

<application> Message attribute application.

<object> Message attribute object.

<nodename> Message attribute nodename.

NOTE This setting does not overwrite any values you set in OVO message source templates or regroup conditions. It only supplies a value if the "service name" attribute in messages is empty.

See also "Deactivating Default Service Names in Messages" on page 184 and "Setting a Fixed Name for Service Names in Messages" on page 185.

Deactivating Default Service Names in Messages

If you do not want OVO to supply default service names for messages, you can deactivate this behavior using the following procedure.

To deactivate default service names in messages:

1. Deactivate default service names in messages:

   • *OVO 7.1*

      a. As user root, open the `opcsvinfo` file on the OVO management server in your favorite text editor. The `opcsvinfo` file is stored in the following location on the OVO management server:

         `/opt/OV/bin/OpC/install/opcsvinfo`

      b. Set the variable for default service names in messages to false:

         OPCSVCM_MSGSVCNAME_DEFAULT FALSE

   • *OVO 8.0*

      Type the following at the command line:

      **ovconfchg -ovrg server -ns opc -set \
      OPCSVCM_MSGSVCNAME_DEFAULT FALSE**

2. Restart the OVO management server processes as user root:

   /opt/OV/bin/OpC/opcsv -stop

   /opt/OV/bin/OpC/opcsv -start

See also "Setting a Fixed Name for Service Names in Messages" on page 185.

Setting a Fixed Name for Service Names in Messages

If required, you can also set a fixed name for service names in messages. This is useful in situations where only a portion of your message source templates sets the "service name" attribute. You can choose a fixed name for all other messages and then use the Service Navigator operator console to identify these messages.

NOTE   Default service names in messages must be activated on the OVO management server for this setting to take effect.

To set a fixed name for service names in messages:

1. Set a fixed name for service names in messages.

   - *OVO 7.1*

     a. As user root, open the opcsvinfo file on the OVO management server in your favorite text editor. The opcsvinfo file is stored in the following location on the OVO management server:

        /opt/OV/bin/OpC/install/opcsvinfo

     b. Add the following line to the opcsvinfo file:

        OPCSVCM_MSGSVCNAME_FIXED <service_name>

        The value you supply for *<service_name>* will be set as "service name" attribute for each message.

   - *OVO 8.0*

     Type the following at the command line:

     **ovconfchg -ovrg server -ns opc -set \
     OPCSVCM_MSGSVCNAME_FIXED <service_name>**

     The value you supply for *<service_name>* will be set as "service name" attribute for each message.

2. Restart the OVO management server processes as user root:

`/opt/OV/bin/OpC/opcsv -stop`

`/opt/OV/bin/OpC/opcsv -start`

See also "Deactivating Default Service Names in Messages" on page 184.

Glossary

A

action An operation that can be carried out by an OpenView application. Actions are typically performed on managed objects. Actions can be manually executed by users through a menu item or toolbar buttons. Actions can also be configured to automatically occur in response to an event, message, or a change in information in the management database.

activate To make active or functional.

adapter Software that allows interoperability between two or more software products or components.

advanced customization Less common types of customization which are more flexible in their capabilities and complex in their implementation than typical customizations. As with other customizations, advanced customizations are done to meet the needs and preferences of a particular customer or user.

agent A program or process running on a remote device or computer system that responds to management requests, performs management operations, and/or sends performance and event notification. An agent can provide access to managed objects and MIB variables, interpret policy for resources and do configuration of resources.

API *See application program interface (API).*

application Packaged software that provides functionality that is designed to accomplish a set of related tasks. An application is generally more complex than a tool.

application program interface (API) An interface that enables programmatic access to an application.

ASCII American Standard Code for Information Interchange.

attribute An attribute is a characteristic or property of an object that can be described through a name value pair. An example of an attribute for a person would be Name: John Smith.

attribute name-value pair An attribute name-value pair is a combination of an attribute identifier and the value of that attribute for a specific object. An example of an attribute name-value pair for a person would be Name: John Smith.

B

badge A miniature icon, placed on or near an object's main icon, that provides information about the object's characteristics.

Boolean operator A logical operator that defines the context in which attribute values will be

compared to satisfy a query or policy. The operators tell the system that:

AND   Both conditions have to be satisfied.

OR   At least one condition has to be satisfied.

NOT   No instance of this condition is allowed.

browser A module within a workspace that presents one or more views of objects and provides functionality for interacting with the objects and the views.

C

child object An entry in an object hierarchy that has a relationship to one or more parent objects within the hierarchy. A child object can at the same time be the parent of one or more child objects.

client A program or executable process that requests a service from a server

client A computer system on a network that accesses a service from another computer (server).

client console An instance of the user interface that appears on the client system while the application runs on a server.

command An instruction to a computer program that causes a specified operation to be carried out. Commands are typically typed by users on a command line.

configuration The combination of settings of software parameters and attributes that determine the way the software works, the way it is used, and/or how it appears. The combination of settings of software parameters and attributes that determine the way the software works, the way it is used, and/or how it appears.

configuration file A file that contains specifications or information that can be used for determining how a software program should look and operate.

configure To define and/or modify specified software settings to fulfill the requirements of a specified environment, application and/or usage.

console An instance of the user interface from which the user can control an application or set of applications.

customer An entity (person or organization) that receives services offered by a service provider. Typically services are provided to a customer based on a contractual relationship.

customization The process of designing, constructing and/or modifying software to meet the needs and preferences of a particular customer or user.

customize To design, construct and/or modify software to meet the needs and preferences of a particular customer or user.

D

database A repository of data that is electronically stored. Typically databases are organized so that data can be retrieved and updated.

deactivate To deliberately stop a component or object from working.

deploy To install and activate software, hardware, capabilities, and/or services so that they work in the business environment.

deployment The process of installing and activating software, hardware, capabilities and/or services so that they work in the business environment.

double-click To press and release a pointing device's button twice in rapid succession. Double-clicking is a time-dependent action. Clicking twice in the same location at slow speed (click-delay-click) is not a double-click.

dynamic parameters Parameters whose values are determined during program execution.

E

error log An output file containing error messages.

export To format and move information from the current application to a location outside the current application.

F

filter A software feature or program that functions to screen data so that only a subset of the data is presented or passed. Filters allow matching-relevant information to be extracted and acted on while non-matching-irrelevant information is held back.

find The act of seeking of specific data or objects within the management application or set management applications based on specified criteria.

G

group A collection of elements that can be treated as a unit. The set of elements in a group may be based on a rule specifying characteristics of group members or it may be arbitrary based on user selection. Assignments of associations and parameters can be made at the group level and inherited by the members of the group.

H

hierarchy Elements organized in successive levels with each lower level being subordinate to the one above.

HP OpenView A family of network and system management products, and an architecture for those products. HP OpenView includes development environments and a wide variety of management applications.

I, J, K

icon An on-screen image that represents objects that can be monitored or manipulated by the user or actions that can be executed by the user.

identifier A name that within a given scope that uniquely identifies the object with which it is associated.

import To format and move information from a location outside the current application into the current application.

install To load a product or component of a product onto a computer system or other network or system device. Installation typically involves running initial configuration scripts that are part of the installation process.

L

list A set of selectable items.

M

managed node A computer system or device in a network that is both monitored for performance, status and messages and is manipulated by means of actions in the management software.

managed object A network, system, software or service object that is both monitored for performance, status and messages and is manipulated by means of actions in the management software.

management server A server that provides management services, processes, and/or a management user interface to clients.

map A view of objects in the management environment (for example, systems, services, devices) in a format that shows one or more topological relationships between the objects.

message A structured, readable notification that is generated as a result of an event, the evaluation of one or more events relative to specified conditions, or a change in application, system, network, or service status.

message browser A graphical user interface that presents notifications that are generated as a result of an event, the evaluation of one or more events relative to specified conditions or a change in application, system, network, or service status.

message description Detailed information about an event or message.

message severity level A property of a message indicating the level of impact of the event or notification that initiated the message.

metadata Data that defines data.

monitored object A network, system, software or service object that is monitored for performance, status and messages by the management software.
Note that monitored objects cannot be manipulated by the management software.

N

node A computer system or device (for example, printer, router, bridge) in a network.

O

object A logical or physical entity that can be described by a distinct named set of attributes. Examples of objects are a customer, a service, a network, a computer, an interface, or a process.

object hierarchy Specification of parent-child relationships (in terms of grouping, not inheritance) to create a tree-like structure and the specification of views for each object in the structure. Each parent in the object hierarchy can have more than one child, and each child can have one or more parents.

object identifier (OID) A unique sequence of numbers or string of characters used for specifying the identity of an object. This identifier is obtained from either an authorized registration authority or an algorithm designed to generate universally unique values.

object rule A rule that determines what conditions must be met before an object will be classified as a child object or a parent in an object hierarchy.

object type An abstraction or categorization of objects based on the attributes of the object. Examples of object types are services, customers, hardware elements.

operator The role of a person who uses a management application to perform a specified subset of management tasks.

operator console A management console that is constrained to provide functionality that is consistent with operator level tasks.

P, Q

parameter A variable or attribute that may be given an arbitrary value for use during an execution of either a computer program or a procedure within a program.

parameter group A set of parameter values that have been categorized together on some logical basis. A parameter group can be applied to a variable as a set allowing multiple values to be assigned with one operation.

parameter type An abstraction or categorization of a parameter that determines the particular kind of data that is valid for the parameter. For example a parameter type could be IP Address which indicates that parameter values must have 4 numbers separated by decimals with the value for each number being in the range of 0 to 255.

parameter value A value that is given to a variable.

parent object An entry in an object hierarchy that has one or more child objects in the hierarchy. A parent object can at the same time be the child of another parent object.

path A sequence of directory names separated by slashes that specifies the location of any file or directory.

port A location for passing information into and out of a network device.

process A coordinated set of activities directed to achieve a business goal.

R

refresh To bring up to date. The process of refreshing synchronizes the data that is loaded in a client console with the data available on the server. Refreshing includes bringing in new data as well as removing obsolete data.

reserved word Words that have special meaning in Service Configuration and cannot be used for any other kind of identifier.

root object Topmost object or objects in an object hierarchy. A root object does not have a parent object.

S

server A program or executable process that responds to and services requests issued by clients.

server A computer system that provides a service (for example, management capabilities, file storage capabilities) to other computer systems (clients) on the network.

service A customer-based or user-oriented functionality (for example, E-mail, network bandwidth, application access) provided by a set of service resources.

service contract A contract between a service provider and a customer that is designed to create a common understanding about services, priorities, responsibilities, and price. Service contracts may or may not include Service Level Agreements (SLAs).

service hierarchy A type of object hierarchy with a service being the root object.

service level agreement (SLA) A negotiated agreement between the service provider and the customer that contains agreed upon Service Level Objectives (performance, availability, and so on) that specify the Quality of Service (QoS) to be maintained. It also contains processes and procedures to be followed when the objective is not met.

service level management The set of management functions that enables the process of measuring, reporting, and improving the quality of service being provided.

service level objective (SLO) A component within an SLA that specifies a Quality of Service metric and value that is to be met subject to specified constraints (for example, in a specified time frame).

service model A representation of the relationship between components of a service.

service offering A collection of different services that make up the products offered by a service provider. For example, a service offering can be a single service such as email or a bundled service like "web-hosting" that consists of the services: "web page hosting", "e-mail", and "customer help desk".

service provider A company or organization that provides services to customers.

service report A report that provides information about the functioning and status of one or more services.

service resource A hardware or software component or an underlying communication medium that is used to provide a service.

severity level A property of an object indicating the status of the object. Severity level is based on the impact of events or messages associated with the object.

Smart Plug-in (SPI) Prepackaged software that installs into a management console and provides management capabilities specific to a given type of business application, database, operating system, or service.

status calculation Process used to determine the status of a service or object based on the status of the source objects that contribute to the status of the service or object.

status propagation The way that the status of a status source is defined for status calculation of an object.

status propagation rule An algorithm or specification that determines how a status source will impact the overall status of an another object (for example, service, group).

status source An object or objects (for example, message, service, node, event) whose severity level or status contributes to the status of another object.

syntax The rules governing the structure and content of a language or the description of an object.

system administrator The role of a person who does configuration and maintenance on a computer system and/or the software on the system.

T

tab A page in the user interface that has a small index-card like projection. The projection typically presents the name for the page and allows navigation to the page by clicking.

target A network element, system, device, interface or software component to which management software or policies will be deployed, or on which actions will be executed.

terminate To permanently stop the execution of a computer operation.

U

UI server A server that can provide user interface components and data to multiple client consoles.

uninstall To remove previously installed software.

user A person who uses a software application, a computer or service. A user can have one or more roles. For example, a network administrator or operator role.

user configuration file A configuration file that contains specifications or information that can be used for determining how a software program should look and operate for a given user.

user ID An identifier that uniquely identifies a principal that is a person.

V

view A data presentation usually in graphical or tabular format. Views allow users to obtain information on the objects (for example, status) and may allow interaction with the objects.

view type A categorization of the presentation format for a view. View types include table, chart, graphical, tree, and explorer.

W, Z, Y, Z

workspace A working area within the OpenView Console that provides views of objects and and access to functionality from the perspective of a given task domain. The objects presented and the actions that are most readily available are scoped by the context of the task domain.

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Symbols