Using Templates and Data Files with Policies and Service Requests

This chapter describes how to use templates and data files with Prime Fulfillment policies and service requests. It contains the following sections:

- Overview, page 49-1
- Using Templates with Prime Fulfillment Policies, page 49-4
- Using Templates with Service Requests, page 49-8

Note For an overview of the Template Manager and how templates and data files are created in Prime Fulfillment, see Chapter 48, "Overview of Templates and Data Files."

Overview

Prime Fulfillment's Template Manager allows you to create, manage, and store templates and associated data files. The purpose of using templates is to provide a means to download free-form CLIs to a device, in order to deploy commands and configurations not normally supported by Prime Fulfillment. Templates are written in the Velocity Template Language and are generally comprised of IOS (and IOS XR) device CLI configurations. Optionally, you can set variables (also defined in Velocity) that are substituted with data stored in data files. The template and data file information is downloaded to the device at the time of service activation. The information in this appendix assumes the templates (including subtemplates, if applicable) and (optional) data files have been set up.

Note You can also create data files "on demand" during service request creation, as covered in later sections of this appendix.

This overview section covers the following topics:

- Summary of Template Manager Features, page 49-2
- Template and Data File Workflow, page 49-3

Summary of Template Manager Features

This section highlights key features of template and data file support in Prime Fulfillment, especially those that have an impact on working with policies and service requests.

Template Attributes

The Prime Fulfillment template mechanism allows you to differentiate templates by specifying (optional) attributes on a template, including:

- Device type
- Line card type
- Port type
- Software version (IOS or IOS XR)

These attributes are set through a drop-down list when setting up the template in Template Manager. Prime Fulfillment uses these attributes to automatically select the template/data file that most closely matches the device defined within the service request. See the section Using Templates with Service Requests, page 49-8, for additional information.

Associating Templates at the Policy Level

Prime Fulfillment supports the association of templates and data files in policies.

Selective Determination of Templates for U-PE and PE-AGG Device Roles

For added flexibility, Prime Fulfillment allows you to selectively apply templates to U-PE and PE-AGG devices (for example, in a ring environment) based on whether the devices have a UNI interface.

Enhanced Subtemplate Support

A new attribute in the Template Editor allows subtemplates to be associated with a template. Prime Fulfillment supports dynamic instantiation of subtemplates based on device attributes. While creating the subtemplates, values for these identifiers must be provided by the operator.

Dynamic Data File Creation

The user can create a data file during service request creation and associate it to the template copied from the associated policy. This functionality extends data file creation from the Template wizard to doing so directly from the service request wizard Template Association screen. In addition, you can modify any or all variables that are part of the template/date file attached to a service request and apply the updated template/data file without removing the entire service.

Automatic Application of Negate Templates

To remove a configuration created from a template/data file, a negate template must be applied to the existing service. This is no longer a manual process in Prime Fulfillment. You create both the positive and negate template. You can assign a positive template/data file to a policy. Prime Fulfillment calls the appropriate negate template at the appropriate time, as the negate template has a direct relationship with the deploy template. Prime Fulfillment determines which negate template to use, based on the service request action requested (for example, deploying or decommissioning a service). The negate template has the same name as the template, with the addition of the suffix .Negate. The negate template does not share the data file of the deploy template. The negate template must have its own data file defined.

Compatibility of the Template Mechanism with Previous Prime Fulfillment Releases

Prime Fulfillment maintains compatibility with the template mechanism in previous Prime Fulfillment releases. Templates created in earlier versions of Prime Fulfillment work "as is," without any modifications to the templates or the workflow. In the case of a policy in the system that was created in an earlier Prime Fulfillment release, the GUI workflow for associating templates/data files is not visible. In such a case, the operator adds the template and data files during service deployment, as in previous releases of Prime Fulfillment.

Template Support for IOS and IOS XR

The template mechanism is supported for both IOS and IOS XR devices. For IOS XR devices, the configlet generated from templates/data files contains CLI commands and not XML statements. For IOS XR devices, template support is provided as CLI commands. For IOS devices, the operator can download a template configlet using the device console.

> **Note** Note the following known issue in the case of IOS XR devices. When a service request is deployed with templates that contain improper or unsupported configurations, the service request still goes to the DEPLOYED state. This because the IOS XR device does not issue an error report on the improper configuration(s) deployed.

RBAC Support for Template Usage

Templates and data files are only accessible to users with the proper RBAC role. A permission type for data files has been added. The permissions allowed for the data files are view, create, modify, and delete. Operators cannot view templates/data files assigned to other roles, and are not permitted to deploy templates/data files to which they do not have access. See Chapter 48, "Overview of Templates and Data Files," for more information on RBAC support for templates/data files.

Template Variables

Template variables support most Prime Fulfillment repository variables for MPLS, L2VPN, VPLS, and FlexUNI/EVC. For a list of supported template variables, see Chapter 4, "Setting Up Physical Inventory."

DCPL Properties

There are a few Dynamic Component Properties Library (DCPL) properties governing templates. These DCPL properties affect when a template is applied, whether negate templates are appended or prepended, whether templates are applied in the case when an service has multiple lines, only one of which have been edited, etc. For documentation on DPLC properties related to templates, see Appendix B, "Property Settings."

Importing and Exporting Templates

Prime Fulfillment provides a mechanism to import and export templates and data files. See Chapter 48, "Overview of Templates and Data Files," for more information.

Template and Data File Workflow

This section summarizes the basic operations involved in setting up and using templates, data files, and negate templates in Prime Fulfillment.

Basic Template Manager Functions

- Create templates and negate templates for different configurations.
- Specify device attributes for the templates.
- Associate subtemplates to templates, if applicable
- Create data files for the subtemplates.
- Create a negate template for each subtemplate.
- Create data files for the negate templates.
- Create a super template and attach subtemplates to it.

These basic Template Manager functions are documented in Chapter 48, "Overview of Templates and Data Files." See that chapter for more information on these tasks.

Policy-Level Template Functions

- Create a policy and enable template support for the policy.
- Associate templates and (optionally) data files to the policy, if desired.

For information on how to associate templates and data files at the policy level, see the section Using Templates with Prime Fulfillment Policies, page 49-4, in this appendix.

Service Request-Level Template Functions

> **Note**   When a policy is only associated with a template and no data file, then during creation of a service request using that policy, automatic selection of a data file for that template takes place, if the template has only one data file. If the template does not have a data file, then one must be created for that template and associated to the service request before saving is permitted.

- Create a service request and associate template(s) to a link.
- Deploy the service request on a device (for example, a 7600).
- The subtemplate and corresponding data file for the 7600 are autoselected for deployment.
- A configlet is generated from the subtemplate.
- Decommission the service request.
- The negate template for the subtemplate is autoselected and deployed.

For information on how to use templates and data files is service requests, see the section Using Templates and Data Files with Service Requests, page 49-12, in this appendix.

Using Templates with Prime Fulfillment Policies

This section provides information on how to enable template support and associate templates/data files with Prime Fulfillment policies. It contains the following sections:

- Overview of Template Support in Prime Fulfillment Policies, page 49-5
- Associating Templates and Data Files to a Policy, page 49-5

Overview of Template Support in Prime Fulfillment Policies

Prime Fulfillment supports associating templates/data files to a service policy. This minimizes steps in the provisioning workflow and also reduces potential errors that can occur if an incorrect template/data file is selected during service creation. In the Policy Editor workflow, after the policy attributes are set, a new Templates Association window appears. The Enable Templates check box that appears in this window allows you to enable template association for the policy and to specify templates/data files to be available for service requests based on the policy. More than one template/data file can be associated to the policy. Each template/data file can be associated to a device role. The available device roles are determined by the policy type. In the case of U-PE and PE-AGG device roles, templates/data files can be selectively determined based on whether the device has a UNI interface. Later, at the time of service request creation, templates are only available if the device type matches the role type specified for the template within the policy or role type along with (or without) the presence of UNI interface in the policy.

Associating Templates and Data Files to a Policy

This section describes how to associate templates and data files to an Prime Fulfillment policy. These features also apply in the case of editing a policy.

After the policy attributes are set for a policy, the Template Association window appears in the workflow.

This window is where you associate the templates/data files as a final step before clicking the Finish button and saving the policy settings.

To associate template(s)/data file(s) with the policy, perform the following steps.

Step 1   Check the **Template Enable** check box to enable template use in service requests based on this policy. This check box is unchecked by default.

The GUI updates with fields allowing you to associate templates/data files to the policy.

Step 2   Click the **Add** button to add a row in which to specify associated templates/data files.

A new row appears in the GUI, providing fields to set the role type, specify templates/data files, and specify if the template/data file is editable within service requests based on the policy.

Step 3   In the Role Type column, choose a device role from the drop-down list.

The role selections might include:

- N-PE
- PE-AGG
- U-PE
- CE (MULTI_VRF)
- CE (MANAGED)
- MVRF

Note   The available device roles in the drop-down list are determined by the policy type.

Step 4   To add a template/data file click the **Add** link in the Template/Data File column.

The Add/Remove Templates window appears.

Step 5   Click the **Add** button to select a template/data file to associate with the policy.

✎

Note   If the device role is specified as U-PE or PE-AGG, templates can be selectively added based on whether the device has a UNI interface. For details on this feature, see Selectively Determining Templates for U-PE and PE-AGG Device Roles, page 49-7. The actual steps for adding templates/data files are the same as in the following steps.

The Template Datafile Chooser window appears.

This is a standard Template Manager window used to navigate to and choose templates and (optionally) data files in Prime Fulfillment.

✎

Note   The following steps involving the Template Datafile Chooser window assume a familiarity with the functionality of the window. For additional information about Template Manager and how templates and data files are created and managed in Prime Fulfillment, see Chapter 48, "Overview of Templates and Data Files." The steps shown here are for example purposes. You must modify the steps as required for your environment. For example, you might want to choose only a template file or both a template file and a data file to associate with the policy. Both scenarios are supported.

Step 6   Navigate to a template in the folder tree and click it to select it.

The template is listed in the right side of the GUI, along with any data files that are associated with it.

Step 7   Check the check box to the left of a data file name and click the **Accept** button.

✎

Note   You can select only the template or both template and data file at this stage, depending on your needs, and whether or not a data file exists for the template.

The Template Datafile Chooser window closes and the selected template/data file appears listed in the Add/Remove Templates window.

If you did not choose a data file, then the Datafile column is blank.

Step 8   Check the check box to the left of the template name to choose the template.

Step 9   Under Action, use the drop-down list and choose **APPEND** or **PREPEND.**

Append tells Prime Fulfillment to append the template-generated CLIs to the regular Prime Fulfillment (non-template) CLIs (configlet). Prepend is the reverse (adds the template to the beginning of the configlet).

Step 10   Choose **Active** to use this template for service requests based on this policy.

If you do not choose Active, the template is not used.

Step 11   To associate additional templates/data files with the policy click **Add** in the Add/Remove Templates window and repeat the appropriate steps to add other templates/data files.

Step 12   To remove a template row from the window, check a template and click the **Remove** button to remove the template from the list.

Step 13   When you are satisfied with the selections in the Add/Remove Templates window, click **OK**.

The Template Association window appears with the template(s)/data file(s) listed as active link(s). If you have added more than one template/data file, they appear in a comma-separated list of links.

You can click on any link to return to the Add/Remove Templates window, in order to edit/update the template/data file information.

Step 14   Check the **Edit** check box to make the template/data file attributes editable in service requests based on the policy.

Step 15   To add additional templates/data files for a given role to the policy, you can click the **Add** button in the Template Association window and repeat the steps outlined above.

Step 16   To delete templates/data files that have been associated to the policy, check a template/data file to choose it.

Then click the **Delete** button to delete it from the Template Association window.

Step 17   When you are finished associating the template(s)/data file(s) to the policy, click the **Finish** button in the Template Association window.

The attributes for the policy are saved and the policy creation or modification is complete.

Selectively Determining Templates for U-PE and PE-AGG Device Roles

Prime Fulfillment provides the capability to selectively determine which U-PE and PE-AGG devices (for example, in a ring environment) to apply templates/data files. During template association in the service policy workflow, the U-PE and PE-AGG device roles have two options to associate templates/data files. These options are:

- Devices with UNI. This option causes templates/data files to be configured on devices of the specified role with a UNI interface.

- All other devices. This option causes templates/data files to be configured on all devices of the specified role, including those with a UNI interface.

Usage notes:

- The templates/data files are selected by clicking on the Add link next to the desired option. The subsequent steps are the same as provided in Associating Templates and Data Files to a Policy, page 49-5.

- This features is not applicable for device roles other than U-PE and PE-AGG. The N-PE role only displays a single Add link in the Template/Data File column.

- For backward compatibility, when editing or viewing old and existing policies, for U-PE and PE-AGG devices, associated templates/data files will display under the All other Devices option.

- When you copy an existing policy, you can copy associated templates/data files (if any) from the All other Devices or Devices with UNI options of the existing policy into the new policy. This is similar to normal Prime Fulfillment behavior.

- You can associate templates (without data files) for either the All other Devices or Devices with UNI options or both.

- Selective determination of templates is supported in all L2VPN and FlexUNI/EVC policy types and service requests. For MPLS VPN, only MPLS PE-CE and MPLS PE-NoCE policies and service requests are supported. For the MPLS VPN PE-CE policy type, this feature is applicable if the PE is or is not associated with an NPC.This feature is not available for Multi-VRFCE policies and service requests.

The following notes describe how this feature is supported in the service request workflow:

- During service request creation, selective templates are differentiated based on the devices having a UNI interface or having both UNI and NNI interfaces for the U-PE and PE-AGG device roles. Templates in the policy are copied to the respective devices functioning in the specified roles. There is no behavioral change for devices of other roles.

- The selective determination of templates is not applicable for service request modification scenarios, as after the service request is created, it is the user's decision to make any changes for templates configured on devices.

Using Templates with Service Requests

This section provides information on templates and data files with a service request. It contains the following sections:

- Overview of Template Use in Service Requests, page 49-8
- Using Templates and Data Files with Service Requests, page 49-12

Overview of Template Use in Service Requests

This section provides overview information about template usage in service requests. It covers the following topics:

- Associating Templates to a Service Request, page 49-8
- Associating Subtemplates During Service Provisioning, page 49-8
- Creating Data Files During Service Request Creation, page 49-10
- Using Negate Templates to Decommission Template Configurations, page 49-10
- Using Templates and Data Files with Service Requests, page 49-12

For details on how these features are implemented in the Prime Fulfillment GUI, see the section Using Templates and Data Files with Service Requests, page 49-12.

Associating Templates to a Service Request

The template mechanism in Prime Fulfillment provides a way to add additional configuration information to a device configuration generated by a service request. To use the template mechanism, the policy on which the service request is based must have been set to enable templates. Optionally, templates and data files to be used by the service request can be specified in the policy. During service request creation, templates/data files can be added to a device configuration if the operator has the appropriate RBAC permission to do so. See the section Choosing a Template in the Service Request Workflow, page 49-12, for how to choose templates/data files in the service request workflow.

Associating Subtemplates During Service Provisioning

All templates can be used by other templates as building blocks. The template using other templates is called a super template. The template being used is called a subtemplate. A new attribute in the Template Editor allows subtemplates to be associated with a super template. The super template instantiates all required subtemplates by passing values for the variables in the subtemplate. After instantiation, the super template puts the configlets generated for the subtemplate into the super template.

Prime Fulfillment branches templates into subtemplates based on device type, line card type, port type, role type, and software versions. These optional attributes are set while creating the subtemplates. The subtemplates are selected based on the following matching criteria:

- Only exact matches are recognized for the card type and port type attributes. No wild card match is allowed for these attributes.

- Only an exact match is recognized for the device type attribute.

- For the software version attribute, the match is done for a software version equal to the current version, if available. If not, the previous highest version is matched.

- If exact matching attributes are not found, then the match proceeds with the criteria described in Table 49-1. An information message listing the exactly matched subtemplates of the super-template is shown if and only if any of the matching criteria are met.

- If none of the attributes are matched, then the default subtemplate is applied.

- If no default subtemplate exists, a subtemplate with all null attribute values is matched.

- If none of the rows specified in the table match, then Prime Fulfillment looks for subtemplates that are marked as device default, or else version default. If no subtemplates are marked as such, then no matching subtemplates are picked. A warning message is displayed.

The matching criteria are summarized in Table 49-1.

Table 49-1   Default SubTemplate Matching Criteria

Matching Order	Role Type	Device Type	Line Card	Port Type	Software Version
1	Exact Match	Exact Match	Exact Match	Exact Match	Exact Match
2	Exact Match	Exact Match	Exact Match	Exact Match	Previous Highest
3	Exact Match	Exact Match	Exact Match	No Values	Exact Match
4	Exact Match	Exact Match	Exact Match	No Values	Previous Highest
5	Exact Match	Exact Match	No Values	No Values	Exact Match
6	Exact Match	Exact Match	No Values	No Values	Previous Highest
7	Exact Match	Exact Match	No Values	No Values	No Values
8	Exact Match	No Values	Exact Match	Exact Match	Exact Match
9	Exact Match	No Values	Exact Match	Exact Match	Previous Highest
10	Exact Match	No Values	Exact Match	No Values	Exact Match
11	Exact Match	No Values	Exact Match	No Values	Previous Highest
12	Exact Match	No Values	No Values	No Values	Exact Match
13	Exact Match	No Values	No Values	No Values	Previous Highest
14	Exact Match	Default	No Values	No Values	No Values
15	Exact Match	No Values	No Values	No Values	Default
16	Exact Match	No Values	No Values	No Values	No Values

Additional usage notes for subtemplates:

- Prime Fulfillment does not perform checks for the depth of subtemplates. Only one level of subtemplates is supported.

- No validations are done to check if the super template and subtemplate structures are cyclic.

- When the operator attempts to delete a subtemplate that is referenced by a super template, a warning message is generated.

- Subtemplates can be modified.

- Subtemplates can be attached to multiple super templates.

- In the current release, multiple data files are not supported for subtemplates. If multiple data files are found, the service request automatically chooses the first data file (from a list of available data files, sorted alphabetically).

Creating Data Files During Service Request Creation

The operator can create data files "on demand" during service request creation. If template(s) are attached to a service policy, and no data file(s) exist for the template(s), a wizard prompts the operator to enter values for variables. If data file(s) are created on demand during service request creation, it is possible to modify any or all of the variables during modification or redeployment of the service request.

The service request workflow supports dynamic creation of data files as follows:

- If a template is marked as non-editable in the policy on which the service request is based, the operator cannot edit it during service request creation. However, the name of template and data files are still visible, even though they cannot be modified.

- If a template is marked as editable in the policy, then (assuming appropriate RBAC permission) the operator can change the template/data files during service request creation.

The following points apply if the template is editable:

- If a template is associated with a service policy, and at least one data file exists for the template, the operator can select the appropriate data file during service request creation.

- If only one data file exists for the template, it is automatically selected.

- During service request creation, the operator can enter values for template variables.

- Optionally, if no data file exists for the template, the operator can create a new data file during service request creation. When the Datafile Chooser window is opened from Template Association window, a Create Datafile button is provided, which allows the new data file to be created.

- The Create Datafile button is only displayed if the operator has the appropriate RBAC permissions to create a data file.

-

See the section Creating a Data File in the Service Request Workflow, page 49-13, for how to set up a data file in the service request workflow.

Using Negate Templates to Decommission Template Configurations

To remove a configuration created from a template/data file, a negate template must be applied to the existing service. Prime Fulfillment automatically applies the appropriate negate template during the decommission of the service request. For instructions on how to use the Prime Fulfillment Template Manager to create negate templates, see Chapter 48, "Overview of Templates and Data Files."

When a template is associated in a policy or service request, the negate template automatically gets associated. During decommission of the service, the negate template is used for deployment. When decommissioning a service request associated with a template/data file, the negate template is

automatically picked up dynamically, by searching for a template name having the name of the original template followed by a suffix .Negate. This takes place at deployment time. Negate templates are dynamically instantiated based on the device attributes of the template to which it is associated.

> **Note** Optional attributes (such as device type, line card type, port type, and software version) applied to a template automatically apply to the corresponding negate template. The optional attributes cannot be applied directly to negate templates.

When a service is decommissioned, the appropriate negate template is deployed. The data file for a negate template is selected during deployment as follows:

- If the negate template has no valid data file, either because there is no data file under the negate template with the same name as that of the main template or there is no data file at all, an error is raised during service request deployment.

- If only one data file is associated with the negate template, the data file is automatically selected. If there is a single data file for the negate template with a name that does not match that of the data file, then deployment will fail with errors and the service request will be moved to the INVALID state.

- In case of multiple data files, only data files with names that match negate template names are chosen.

The following points cover the behavior of templates in various modification scenarios:

- If you change the template associated with a service request, the negate template automatically changes to the negate template of the newly selected template. In this case, Prime Fulfillment executes the negate template of the previously associated template, as well as the newly associated template.

- When a template or negate template is modified, the service request does not roll back the configuration changes made earlier through the template.

- When a service request is modified, the template command is always deployed. (See the remaining bullet items for some additional clarifications.)

- When a service request is modified without changing template/data file information, the template commands are not redeployed. The only a modification that triggers a change in template/data file results is the negation of the old template and the addition of new template commands in the device configlet.

- When the ForceTemplateDeploy DCPL property is turned ON then, irrespective of templates being modified, if a service request is modified, templates are re-deployed. However, negate templates are not necessarily re-deployed. Negate templates are deployed only when a link/attachment circuit in the service request is deleted, which implicitly means removing templates associated with the link being deleted as well. When the ForceTemplateDeploy DCPL property is turned OFF, negate templates are instantiated under the following conditions:

  - Deleting or decommissioning a link/attachment circuit in a service request.

  - Modifying templates (for example, delete existing templates and adding new ones to a link, or deleting only existing ones).

  - Rehoming links/devices in a service request that has associated templates.

- When a device is changed in a service request, the negate template is deployed for the old device, and the template is deployed for the new device.

- When a link in a service request is removed and a new link is added, a negate template is deployed for the deleted link and a template is deployed for the added link.

Using Templates and Data Files with Service Requests

This section describes tasks related to templates, data files, and negate templates that can be performed in the service request workflow. The following tasks are covered:

- Choosing a Template in the Service Request Workflow, page 49-12
- Creating a Data File in the Service Request Workflow, page 49-13
- Decommissioning Service Requests with Added Templates, page 49-14
- Viewing Templates from the Service Requests Window, page 49-14

Choosing a Template in the Service Request Workflow

When creating a service request, the workflow involves selecting a policy on which to base the service request, setting interface and other attributes, and so on. The specific windows and attributes presented in the workflow depend on the type of service request, such as L2VPN, VPLS, MPLS, or FlexUNI/EVC.

To associate templates and data files in a service request, you must select a link in the appropriate window of the Service Request Editor window, usually by clicking the **Add** link for the device.

✎ **Note**   There is no choice of options to selectively determine templates for U-PE and PE-AGG devices during the service request workflow. Templates are automatically copied from the policy, based on the presence of a UNI interface on the devices functioning in U-PE and PE-AGG roles. See the section Selectively Determining Templates for U-PE and PE-AGG Device Roles, page 49-7, for more information on this feature.

To choose the template(s)/data file(s) for the device(s), perform the following steps.

Step 1   Click the **Add** link in Template/Datafile column for a device.

The Add/Remove Templates window appears.

Step 2   Click the **Add** button.

The Add/Remove Templates window appears.

Step 3   Navigate to a template in the folder tree and select it.

The template is listed in the right side of the GUI, along with any data files that are associated with it.

At this point, you can either select an existing data file, or click the **Create Data File** button to create a data file dynamically in the workflow. The rest of the steps in this section cover the case of selecting an existing template and data file. For instructions on how to create a data file dynamically, see the section Creating a Data File in the Service Request Workflow, page 49-13.

Step 4   Check the check box of a data file to choose it.

Step 5   Click the **Accept** button to confirm the choice.

The template/data file combination appears in the Add/Remove Templates window.

Step 6   To add additional templates/data files to the list, click the **Add** button and repeat the appropriate steps, as covered above.

Step 7   When you are satisfied with selection of templates/data files, click the **OK** button in the Add/Remove Templates window.

The templates/data files appear in the Template/Datafile column of the Template Association window.

If multiple templates/data files are selected for a device, they appear as a comma-separated list, as shown in the figure.

Step 8   Click the **Finish** button to create the service request with the template/data file selections you chose.

If the template associated to the service request is a super template comprising of one or more subtemplates, Prime Fulfillment displays a message confirming this.

For information about how templates/data files are instantiated when the service is deployed, see the information provided in the section Associating Templates to a Service Request, page 49-8.

Creating a Data File in the Service Request Workflow

During the final stage of setting the link attributes for a service request, the Template Association window appears. The Template Association window lists the devices comprising the link, the device roles, and the template(s)/data file(s) associated with the devices. You can choose the template(s)/data file(s) to be associated with the devices, as described in the section Choosing a Template in the Service Request Workflow, page 49-12. If one of the templates selected in the Template Datafile Chooser window does not have an associated data file or if you would like create a new data file for it, you can do this dynamically in the workflow while setting up the service request.

To dynamically set up a new data file for a template, perform the following steps.

Step 1   In the Template Association window, click the **Add** link in the Template/Datafile column for a device.

(If a template was previously selected for a device, click the link for the template name.)

The Add/Remove Templates window appears.

Step 2   Click the **Add** button.

The Template Datafile Chooser window appears.

Step 3   Navigate to a template in the folder tree and select it.

The template is listed in the right side of the GUI, along with any data files that are associated with it. This example uses the AccessList1 template in the Examples directory.

Step 4   Click the **Create Data File** button to create a data file dynamically in the workflow.

The Data File Editor window appears.

Step 5   At this point, you are in the standard workflow for creating a data file in Prime Fulfillment.

In the Date File Editor window, you can specify a name and description for the data file, set variable values, view the configlet, and so on. For details on how to perform these steps, see Chapter 48, "Overview of Templates and Data Files."

Step 6   When you have completed setting the attributes for the new data file, click **Save** and then **Close** to save this information and close the file; click **Configure** to show the configuration file; or click **Close** and then be sure to click **OK**, if you want to save the information you have created.

If you do not want to save this information, click **Close** and then click **Cancel**.

When the data file is saved, the Template Datafile Chooser window appears with the newly created data file listed.

Decommissioning Service Requests with Added Templates

This section describes how to decommission Prime Fulfillment service requests that have added templates.

> **Note** For general information on how templates are used in Prime Fulfillment, see Chapter 48, "Overview of Templates and Data Files."

Template commands are treated independently from those associated with a service creation. Consequently, template commands must be removed separately from the device(s) during a service decommission. To remove prior template commands, a separate template is needed during a decommission process. Decommissioning a service request does not automatically remove the original template commands. A separate negate template needs to be added to the decommission process and the original templates must be removed. The negate template must contain the necessary NO commands to successfully remove any unwanted IOS commands added by the original template.

The standard way to create a service request with a template added is as follows:

1. Define the service policy.

2. Build a template with a data file (and also a negate template and data file).

3. Create the service request with the template added. The steps to do this are covered in relevant chapters of this guide.

4. Deploy the service request to which the template was added.

To decommission a deployed service request, including associated templates, you must perform the following steps.

1. Create a negate template with data file (if one does not exist). This is used to remove the commands imposed by the original template. For an explanation of negate templates, see Chapter 4, "Using Templates" in the *Cisco Prime Fulfillment API Programmer Guide 6.1.*

2. Decommission the service request. The negate template will be picked up dynamically.

   The service request remains in the **Requested** state, but changed to an Operation Type of Delete.

3. Deploy the service request. This decommissions the service request and downloads the negate template, which removes the original template commands.

Viewing Templates from the Service Requests Window

In the Service Request Manager window, a paper clip icon appears in the Data Files column if a service request has one or more templates associated with it.

> **Note** You can use the **Show Services with** field to search for service requests that have a specific data or template file. Choose **Data File Name** or **Template Name** from the drop-down list and enter a search string in the **matching** field. The matching field is not case-sensitive and supports wildcards (*). You can further limit the search by using the **of Type** field to confine the search to a particular service type. When listing service requests using Template Name, provide the entire path of the template file location (for example: examples\template, where examples is the folder name and template implies the template name).

To view the configlet(s) for the template(s) associated with a service request, perform the following steps.

Step 1   In the Service Request Manager window, check the check box for a service request with an associated template, as indicated by a paper clip icon in the Data Files column.

Step 2   Click the **Details** button.

The Service Request Details window appears.

The Associated data file(s) row displays a link for each data file associated with the service request, as shown in the figure.

Step 3   Click a data file link to display the configlet for the template.

Step 4   After viewing the configlet, click **OK** to close the configlet display window.

Step 5   Click **OK** to close the Service Request Details window.

Step 6   As an alternative, you can access the data files associated with a service request by clicking on the paper clip icon in the Service Requests window.

The Data file Details for Service Request window appears.

The window displays only a list of the data files associated with the service request.

Step 7   Click a data file link to display the configlet for the template.

Step 8   After viewing the configlet, click **OK** to close the configlet display window.

Step 9   Click **Close** to close the Service Request Datafile Details window and return to the Service Requests window.