Systinet

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Windows and Linux Operating System

User Guide

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Contents

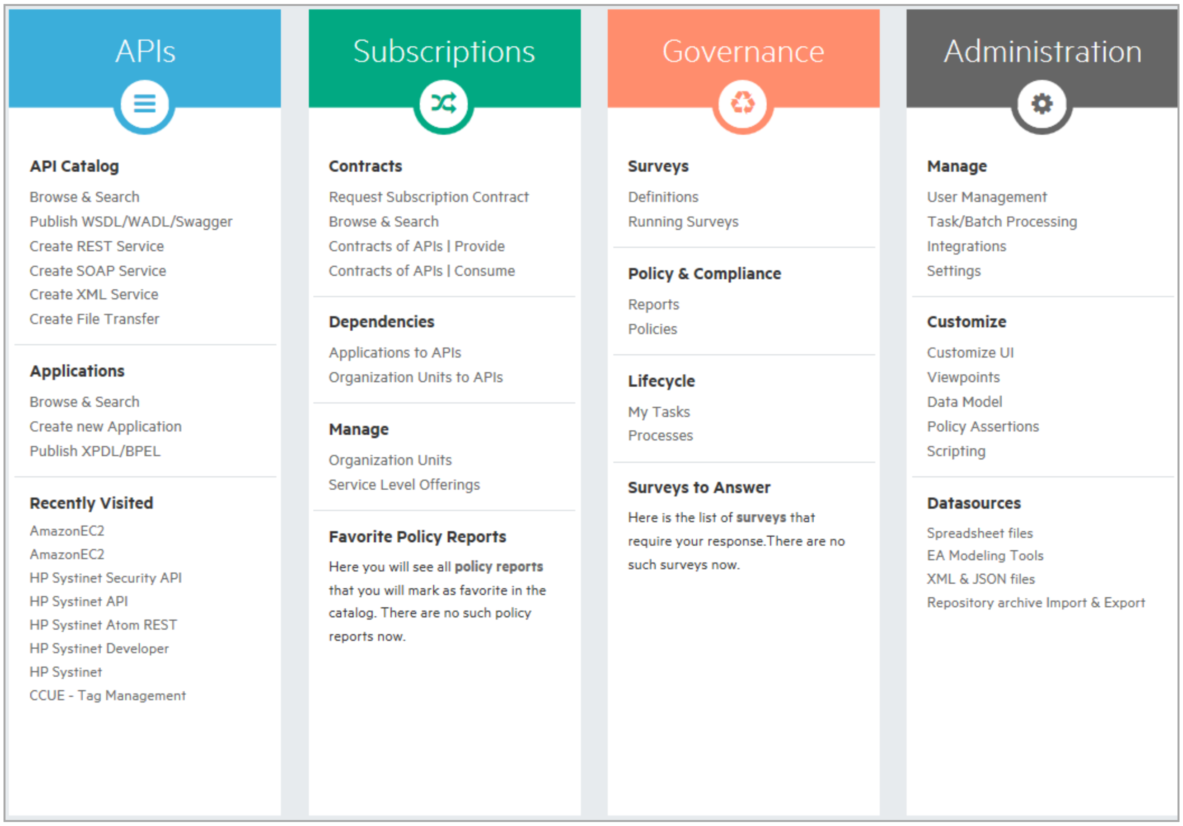
Chapter 1: Get Started

HPE Systinet helps you centralize the enterprise infrastructure.This guide describes the key features and their inter-dependencies. It covers the following topics:

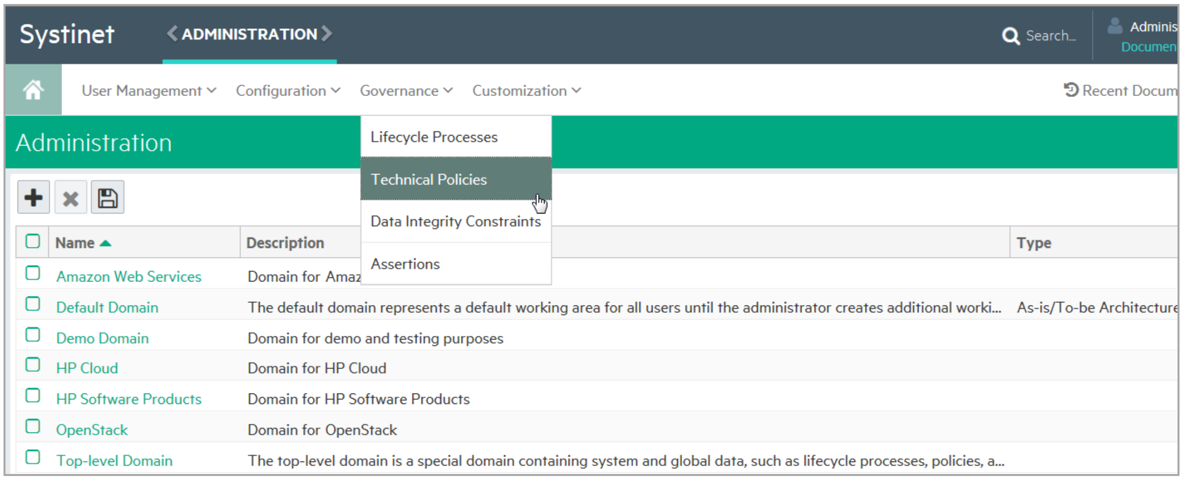
Feature	Description
"Catalog" on page 9	Explains how to create, edit, view artifacts and their relationships, and search for artifacts.
"Navigator" on page 46	Explains how to view related artifacts in graphical mode.
"Reports" on page 53	Explains how to view, print reports and customize the dashboard.
"Subscription Management" on page 64	Explains how to set provider for an artifact, how to create contract, and how to process the contract request.
"Authoring Overview" on page 74	Explains how to add content to the Catalog for the purposes of governance and management.
"Versioning Overview" on page 96	Explains the concept of versioning, revisioning, how to add and compare revision.
"Runtime Gateway Interoperability Framework (RGIF) Overview" on page 102	Explains RGIF concepts, quick start with adding RGIF servers, deploy adapters, work with polices, and manage proxies.
"Surveys" on page 134	Explains how to start, undertake, manage and monitor surveys.
"Collaboration " on page 144	Explains how to add comments, ratings, notify other contacts, share artifacts (provide access to others), complete assigned tasks and view artifact feeds and events.
"Excel/CSV File Export and Import" on page 157	Explains how to export and import spreadsheet data.

Chapter 2: Catalog

The HPE Systinet Catalog tab home page displays a set of panels which present the most common managerial functions. Click on the desired link to go to the required function.



However, these functions are also available from the main menus under their respective tabs. For example: Policies link under Governance panel is available in **Administration > Governance > Technical Policies** menu.

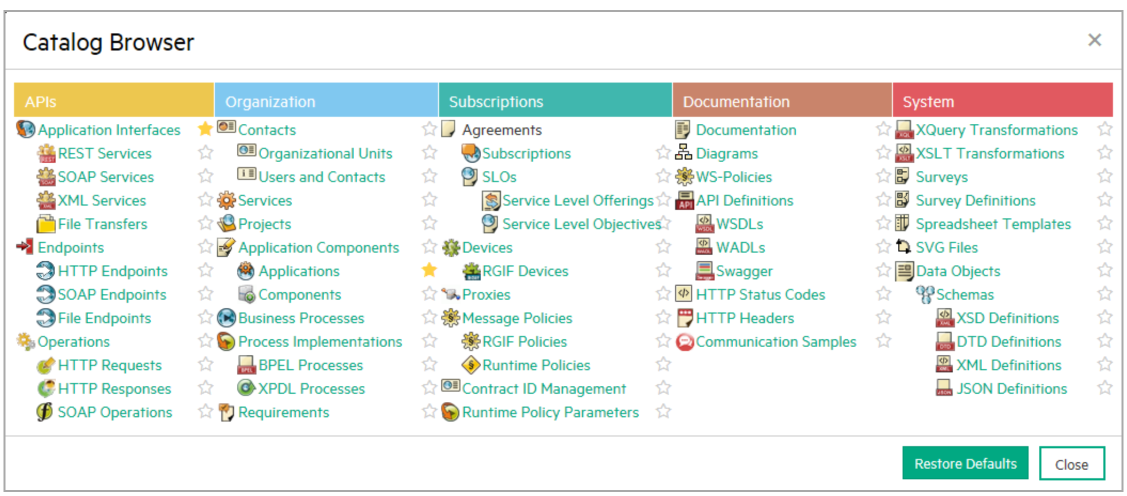


Note: Administration panel is only visible to administrators.

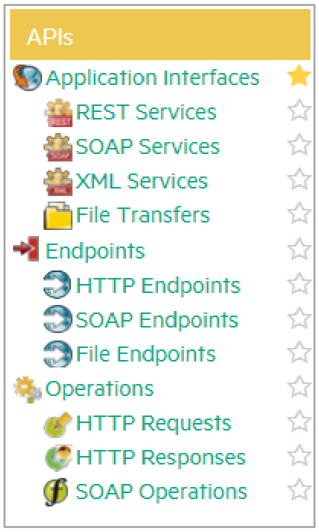
Catalog Browser

The HPE Systinet catalog browser is the place for viewing artifacts by artifact collection type.

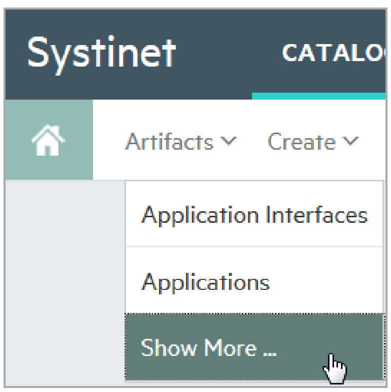
1. To open the catalog browser, click **Catalog > Artifacts > Show More**.



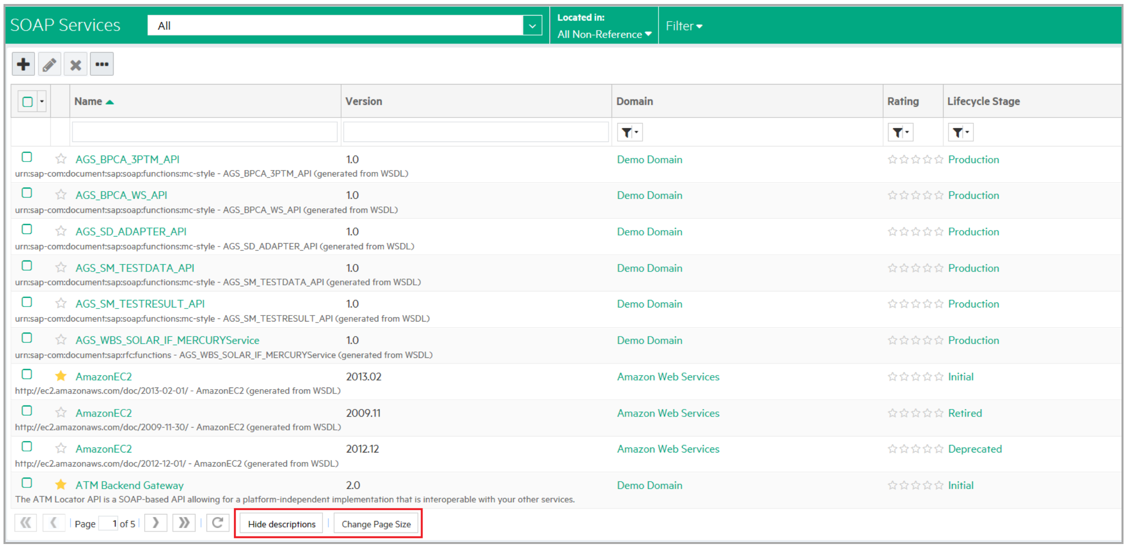
2. To open a collection of artifacts, click the type of artifact that you want to view. In this example, click **SOAP Services** under the **APIs** as shown in the image below:



> **Tip:** You can pin the SOAP Services artifact collection to your Artifact menu, by clicking the star Pin next to the SOAP Services artifact collection. Pinning a collection makes it quick and easy to access.



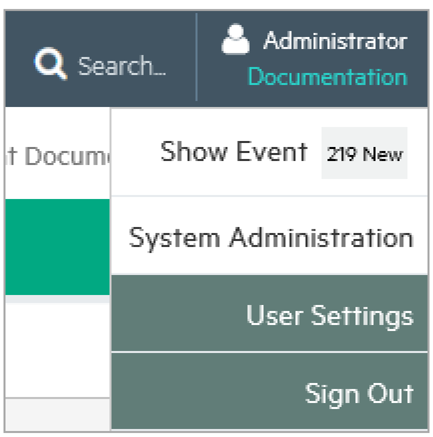
3. After you select the artifact collection you want to view, the collection page opens. In the sample below, the SOAP Services artifact collection is displayed.



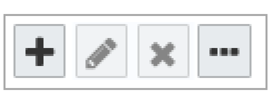
4. To customize your view, you can sort, filter, and manage columns.

   Note: Column filters are not visible if all artifacts are shown on a single page.

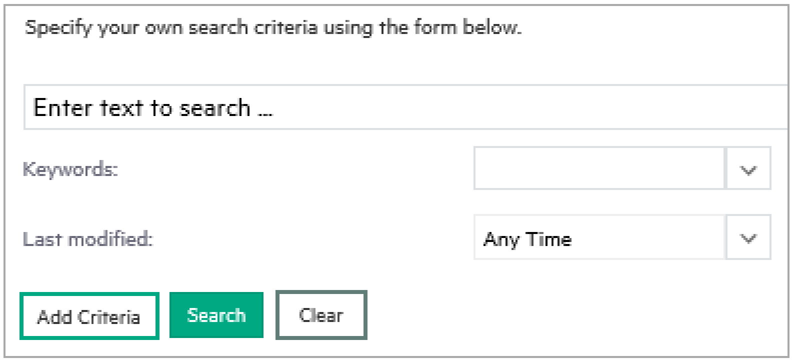
5. You can use controls at the bottom of the collection page to control the page size and amount of description displayed. Revised page sizes are stored. To reset, go to **User Settings** menu on the top right, under the user name. Scroll down to change the table page sizes.



6. To perform bulk operations on artifacts in the collection, you can use the toolbar at the top of the collection page.



7. You can set up custom filters, such as a filter for favorite artifacts or artifacts that you own.

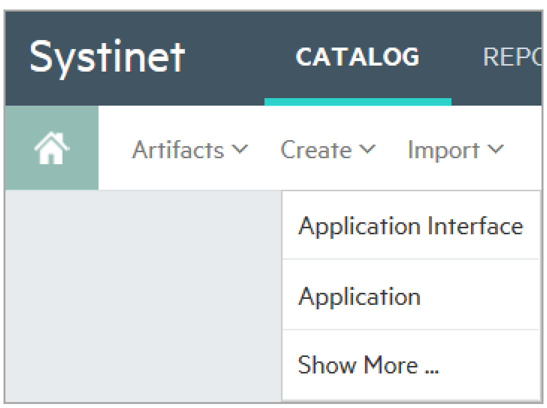


Creating Artifacts

You can use HPE Systinet to create new artifacts, and the attributes and relationships that impact those artifacts.

To create a new artifact:

1. Click **Catalog > Create > Show More** to open the catalog browser Create Artifact window.

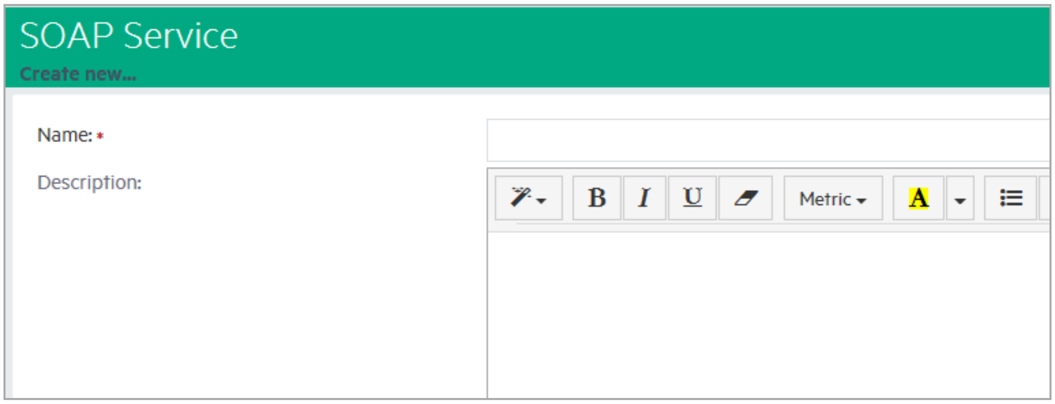


2. Select the artifact type that you want to create. The new artifact is displayed.

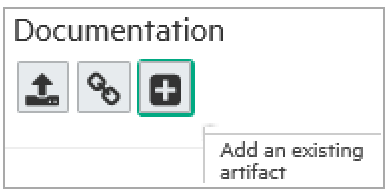
   Or you can click the **Open create dialog for this artifact** icon on the artifacts collection page to create a new artifact.

4. Enter the name of your new artifact. You can enter values in the optional fields as per your

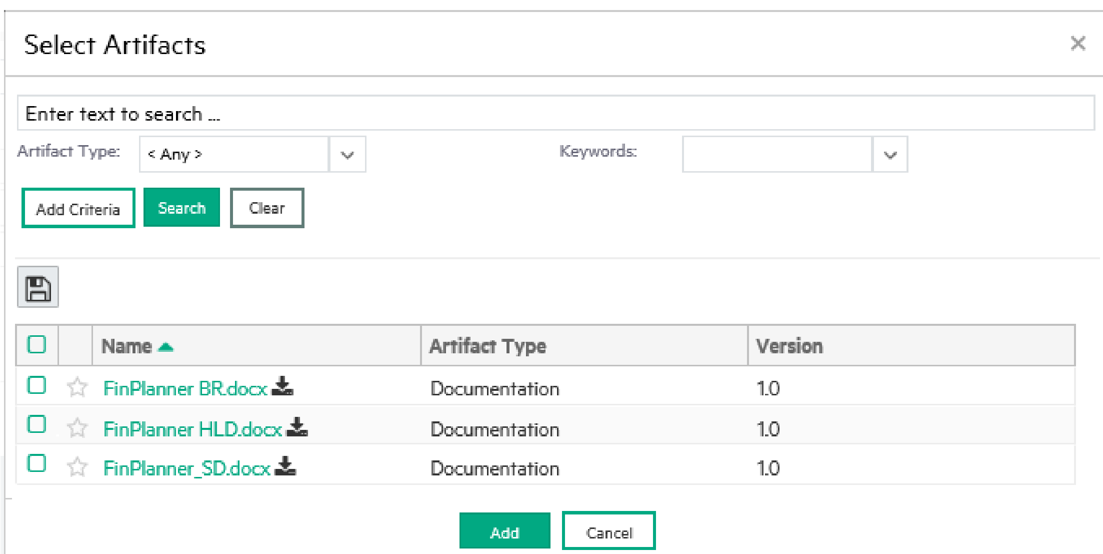
requirement.



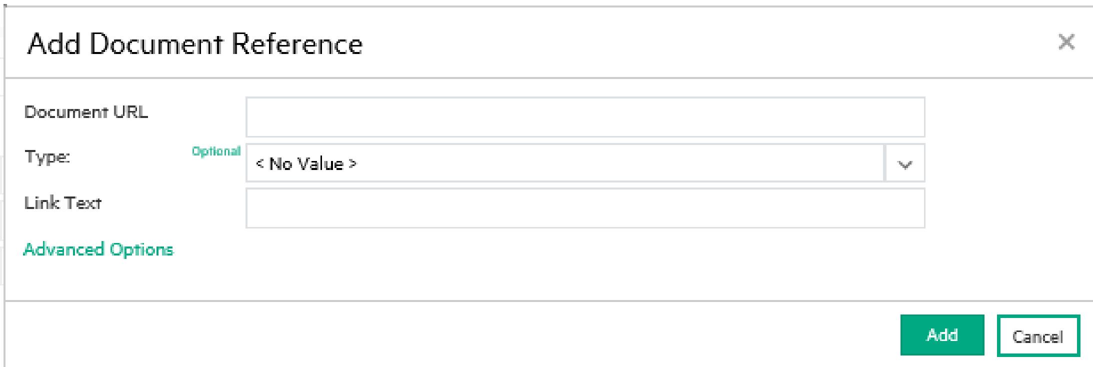
5. In the Documentation area, you can attach or link associated documentation. Documents that you load are viewable on the Documentation tab.



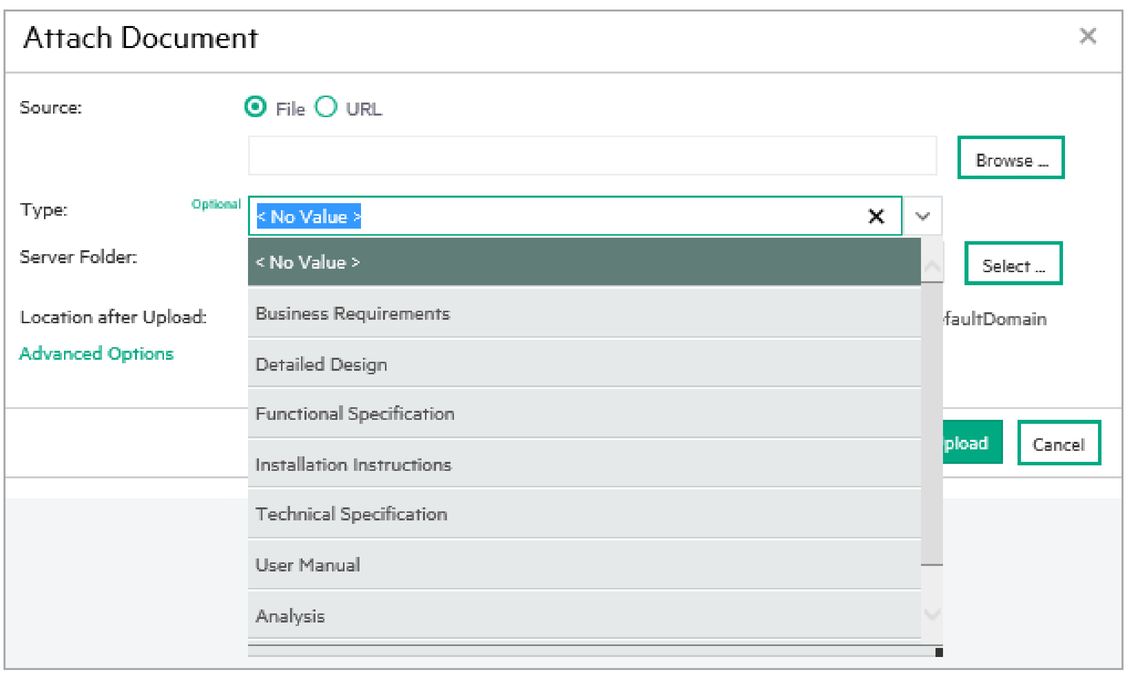
6. To add documentation from an existing artifact, click **Add an existing artifact** icon. The Select Artifact window displays a list of documentation artifacts to choose from.



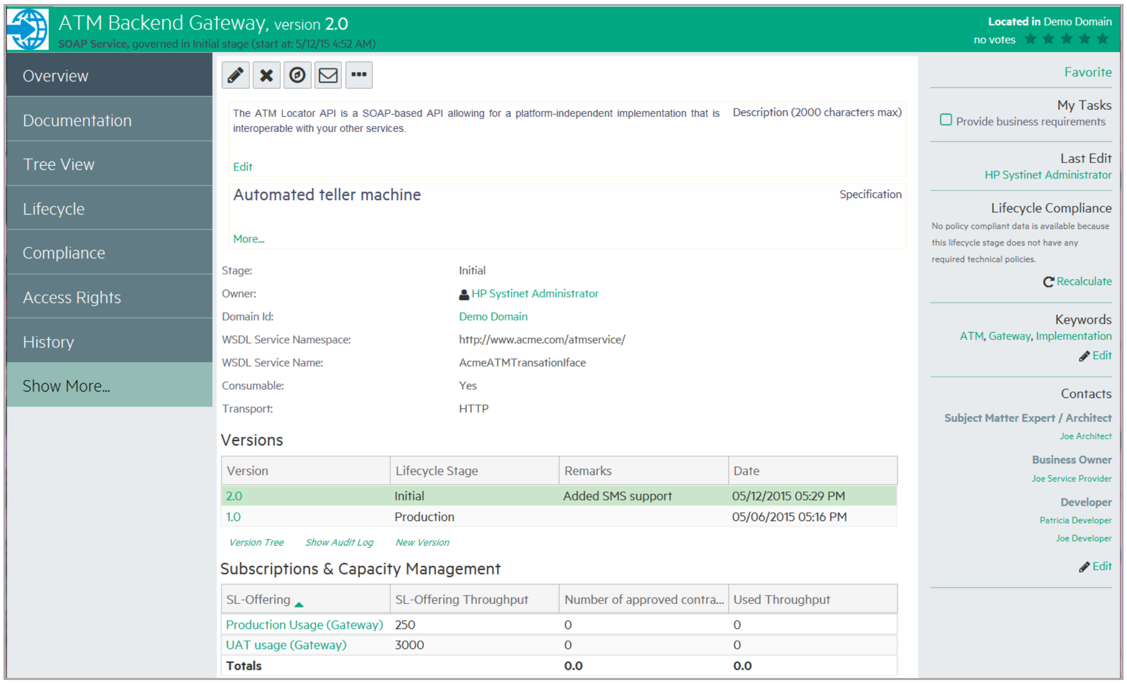
7. To add a link to documentation from a web resource, click **Link a Web Resource** icon. The Add Document Reference window opens and you can use it to enter the document URL, the document type, and any text or keywords that you want to appear with the link.



8. To attach a documentation artifact directly, click **Upload a Local File to the repository** icon. The Attach Document window opens and you can use it to enter the document source location, the document type, the server folder, and the location where the document should reside after upload, as well as keywords that you want to enable so that users can find the document. In this example, the document types are shown in the image below:

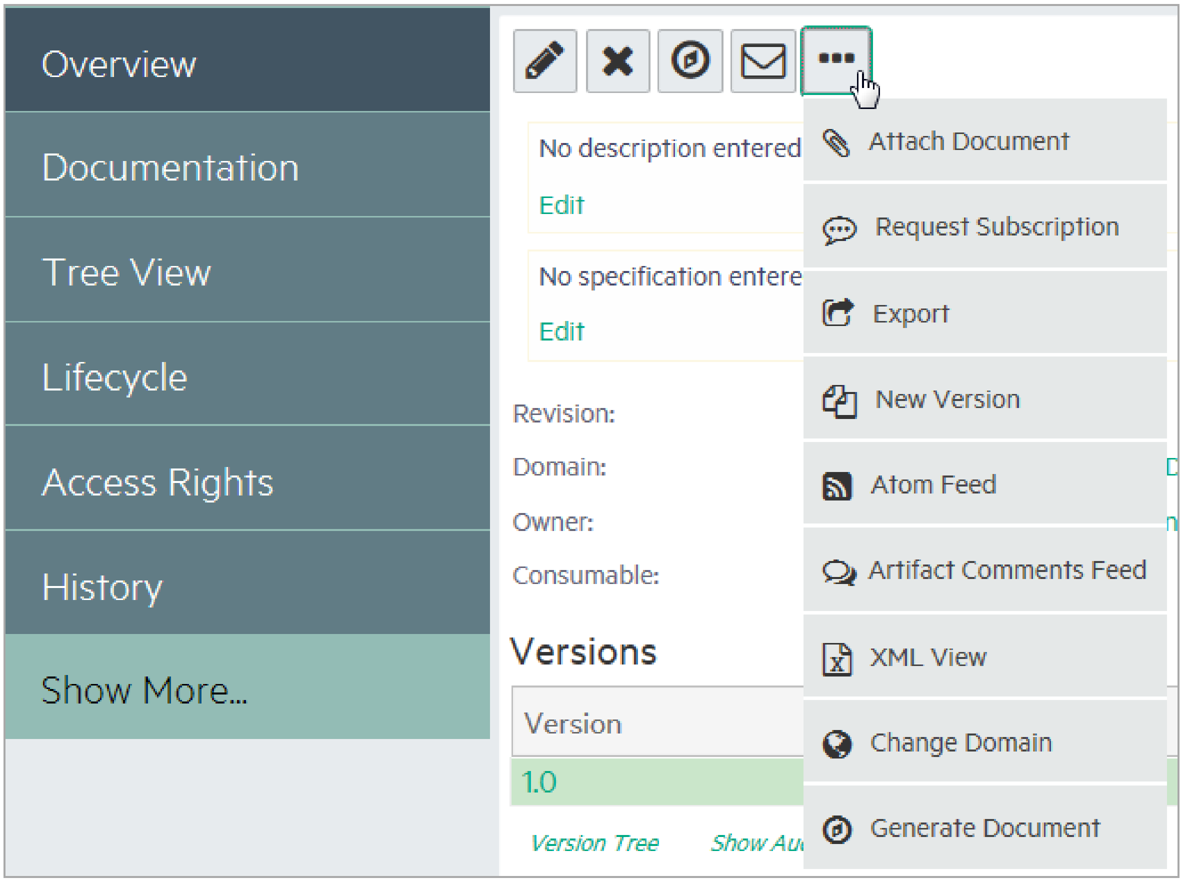


9. Click **Save** to save the new artifact that you created. Your new artifact record is displayed and you can add or modify attributes and relationships using the tabs. Documentation artifacts are shown on the Documentation tab.



Domain Visualization

HPE Systinet enables you to create or import artifacts in your working domain in which the artifacts are created or imported. Click ***Located in <domain>*** and select the working domain. You can click the domain name and change if required as depicted in the images below:



To switch the working domain, click ***Create new in <domain>*** in Systinet header and select from the list. Thereafter, the artifacts are created or imported in the new working domain.

When you view artifacts through reports menu tab, the ***Show data in <domain>*** indicates the domains where artifacts are queried from. The selected domains are personalized for each user and are retained across Catalog collections, Navigator and Reports UI.

The data in ***Show data in <domain>*** is displayed as follows:

- **All Non-reference**

  If As-is/To-be Architecture and Demo Data domain types are selected. This is the default domain (i.e. excluding Reference Model domains).

- **All Reference Models**

  If Reference Model domain type is selected.

- **All Architecture Domains**

  If As-is/To-be Architecture domain type is selected.

- **All Demo Data Domains**

  If Demo Data domain type is selected.

- **All Domains**

  If As-is/To-be Architecture, Demo Data and Reference Model domain types are selected.

- **All Reference Architecture Domains**

  If As-is/To-be Architecture and Reference Model domain types are selected.

- **All Reference Demo Domains**

  If Demo Data and Reference Model domain types are selected.

- **Selected Domains**

  If one or more domains are selected from list.

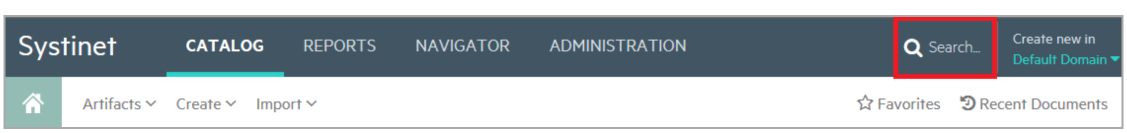
> **Note: Show data in <domains>** is not applicable to the following reports:
>
> - Policy reports (use Definition UI to set domains)
> - Governance Dashboard
> - Custom reports (use DQL or SQL definitions to query artifacts)

Searching for Artifacts

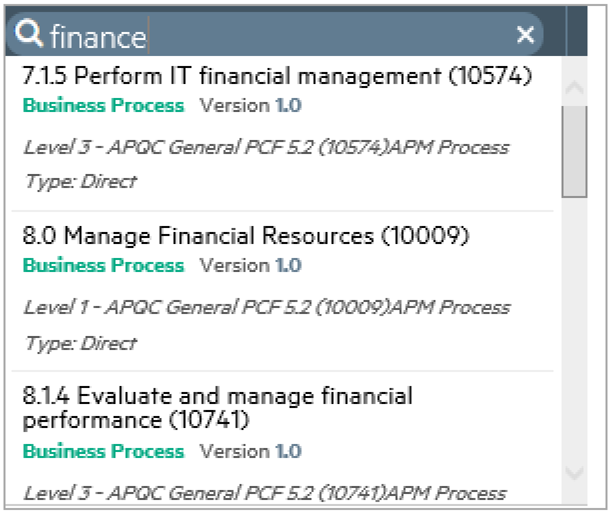
HPE Systinet enables you to perform artifact search quickly and easily from every page.

To perform a basic search:

1. Enter the text to search in the Search box.



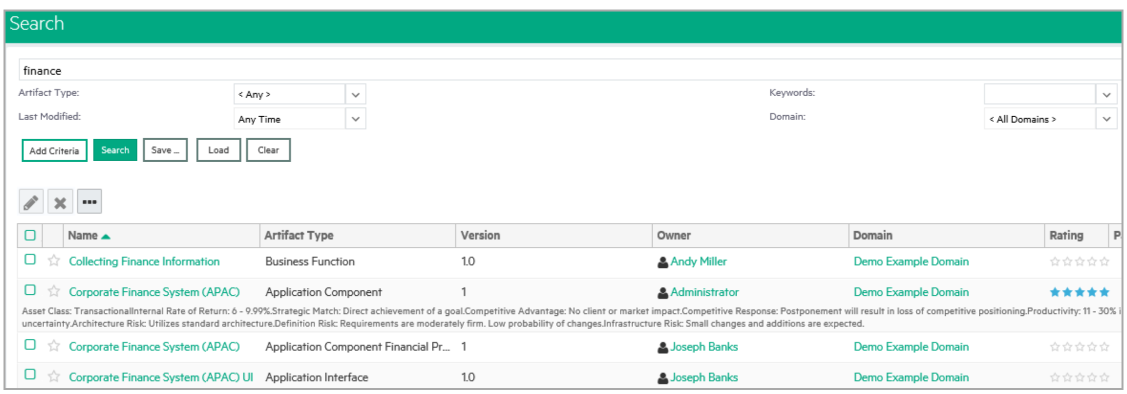
   For example, if you search for the word "finance," a drop-down list of results is displayed.



2. Click on the desired artifact to open the Artifact details page.

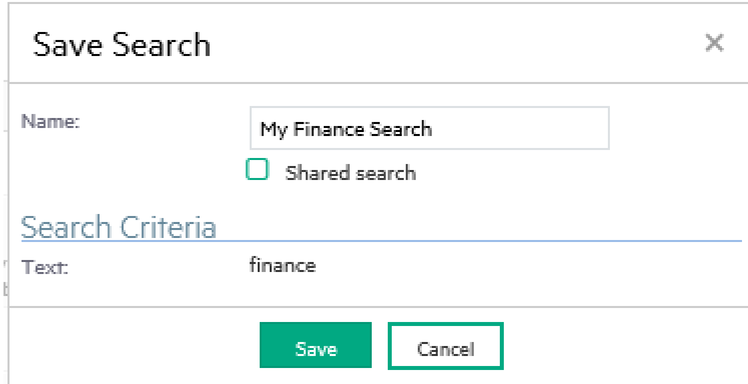
To perform an advanced search:

1. Enter the text to search for in the Search box and press enter. The Search page is displayed showing the text you searched for. In this case, the search word "finance" is shown.

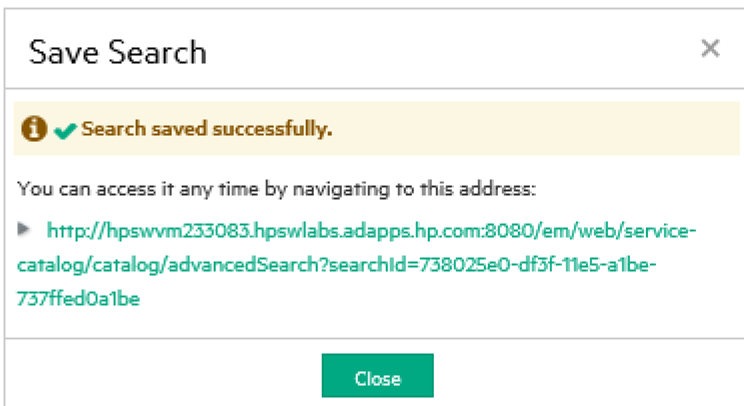


2. To refine your query, use the additional boxes to add additional search terms, key words, or to add criteria.

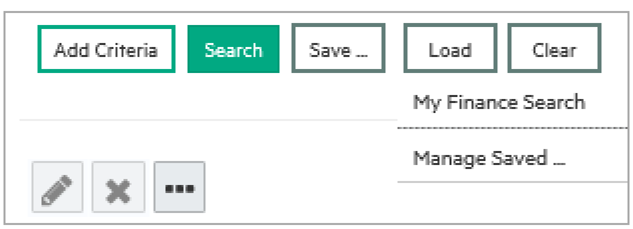
3. Click **Save** to save the search for future use. The Save Search box is displayed.



4. Type the name for your search and then click **Save**. You can access your search at any time by navigating to the URL address provided. You can also share the search URL with others.



Once you have saved a search, it is displayed each time you click **Load** in the Search page.

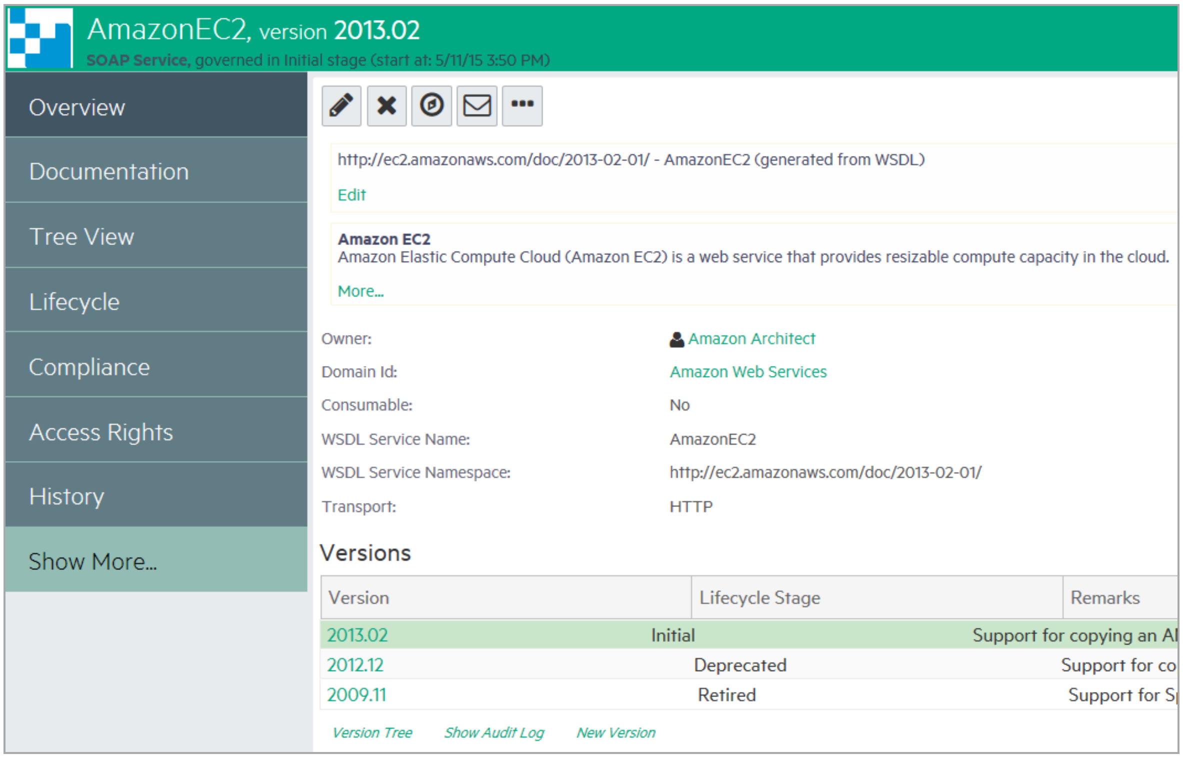


Artifact View Page

An Artifact View page in the Catalog tab presents comprehensive details about each object in the Catalog. Also it provides access to functionality required to perform most of the actions related to individual artifacts.

Each artifact contains a large amount of detail, hence an Artifact View page is organized into a set of tabs enabling you to focus on particular aspects of the artifact.

Access Artifact View page by clicking the name of an artifact wherever it appears in the Catalog tab.



The page header displays the artifact name, artifact type, and artifact ratings. For details about ratings, see "How to Use Ratings" on page 151.

The Artifact page contains all available tabs. When you click **Show More** further tabs are displayed.

> **Note:** The available tabs and functionality vary according to role, artifact type, and permissions.

Artifact View Page Tabs

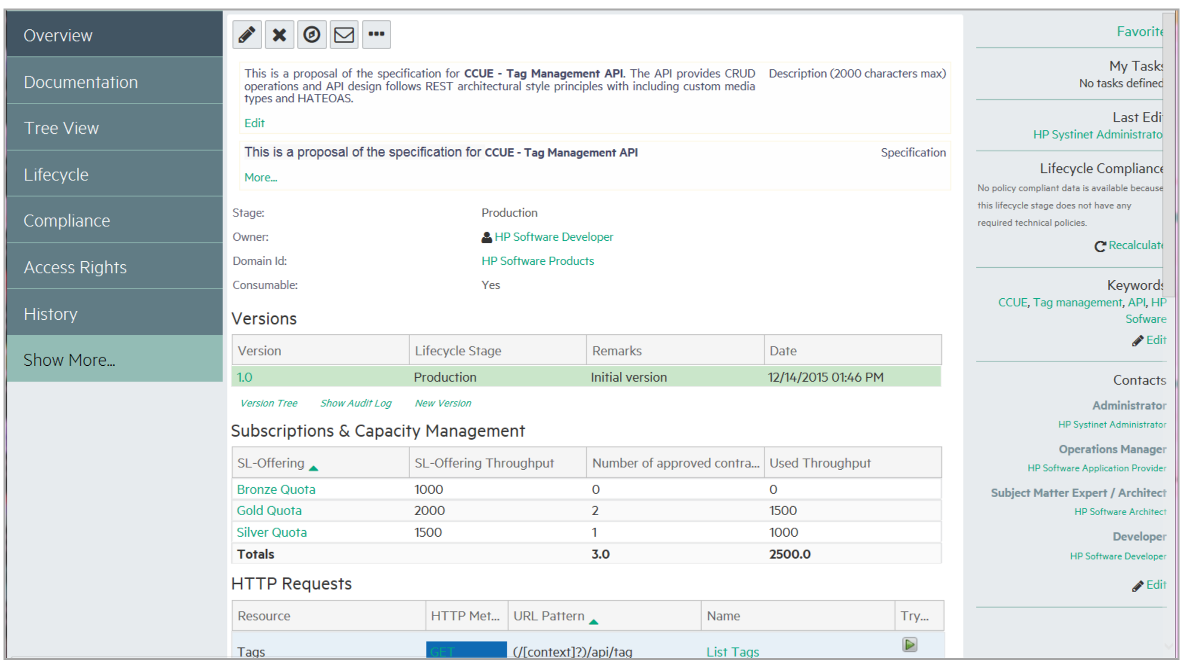
Tabs	Tab Content
"Overview Tab" on the next page	The most important information about the artifact, such as its major properties, the most important relationships, overviews of events, tasks, last edits, overview of policy compliance and keywords.
"Documentation Tab" on page 25	Manage the documents associated with the artifact.
"Tree View Tab" on page 27	Shows an artifact structure browser. It either displays composite structure or impact report. In addition to artifact basic information (such as name, owner and type) the browser captures lifecycle information such as the current stage.

Artifact View Page Tabs, continued

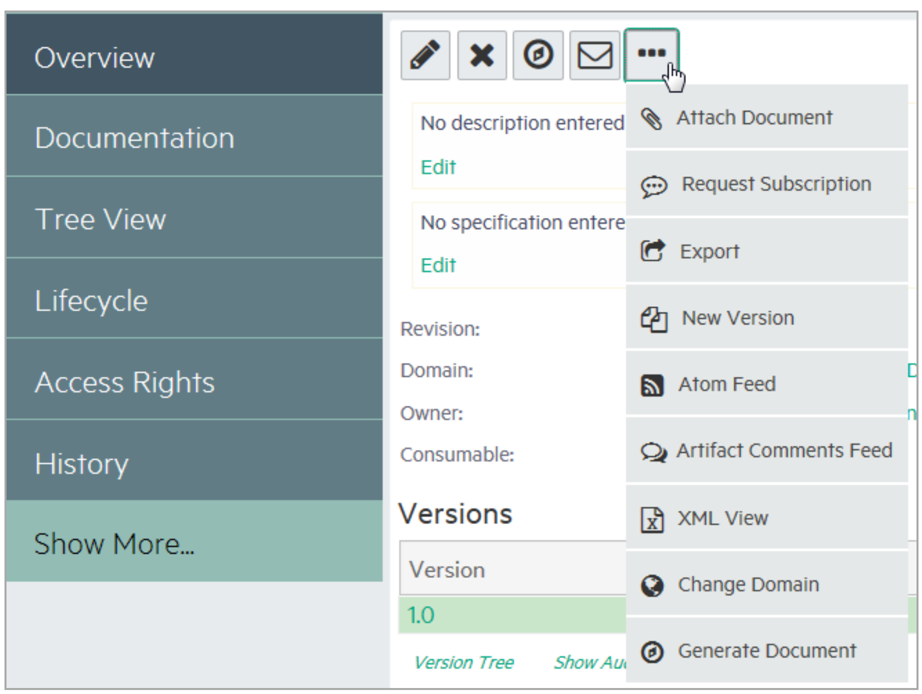
Tabs	Tab Content
"Lifecycle Tab" on page 27	Information related to the artifact lifecycle, provides a graphical view of lifecycle process showing the details of each stage.
"Compliance Tab" on page 28	A detailed breakdown of the current policy compliance status of the artifact.
"Access Rights Tab" on page 29	View and manage the access rights for the artifact.
"History Tab" on page 30	Lists artifact revisions enables users to compare selected two revisions and see the differences between them.
"Events Tab" on page 31	Contains all events related to the artifact.
"Contacts Tab" on page 31	View and manage the contacts for the artifact.
"Relationships Tab" on page 32	View all the incoming and outgoing relationships for the artifact.

Overview Tab

The Overview tab is the default view of an artifact and contains important information about the artifact and its operations.



Overview Tab Content

Content	Description
Description	The description of the artifact with 2000 characters max.
Specification	The first sentence of artifact's specification. To view more detail, click **More** link to open the Specification tab.
Properties	The first section of the page displays the properties of the artifact including options to compare versions, and set the provider.
Subscription and Capacity Management	Displays a table of Subscription and Capacity Management report with used throughput and availability information of Service Level Offerings.
Environments	Displays a table consisting of Name, Endpoint URL, Transport, and Clone. Click the Add Endpoint or Create Endpoint link to add and create Endpoints, respectively. For more information, see "Environment" on page 77.
Relationships	The important relationship, and services and its implementations are displayed. Click **Show them all** to show the full relationships section.
Latest Events	Displays the latest actions affecting the artifact. Click **More...** to open the Events tab or the Tool icon to customize the Events component content. For details, see "Events Tab" on page 31 and "How to Use Events" on page 148.
Context Actions	Displays set of context actions for the artifact relevant to the artifact type, its current status, and your role. 

Overview Tab Content, continued

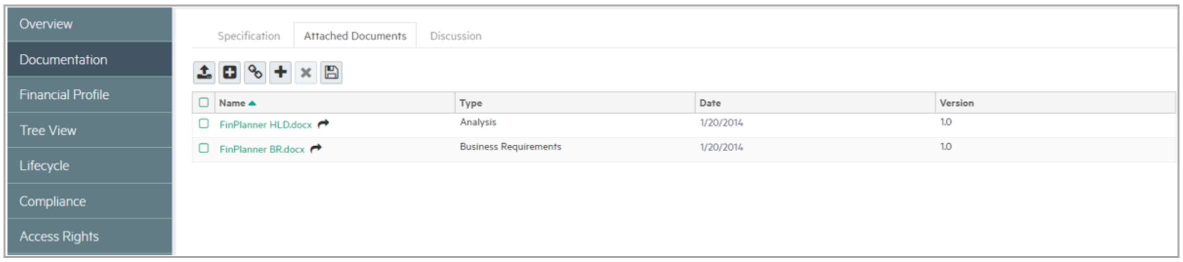
Content	Description
	The available actions include the following: • **Edit** - Edit artifact. • **Delete** - Delete the artifact and its sub-artifacts. • **Navigator** - Switch to the graphical navigator view for the artifact. • **Send Notification** - Send an email notification to artifact stakeholders. For details, see "How to Use Notifications" on page 146. • **Attach Document** - Attach a local or remote document to the artifact. • **Change WSDL** - Attach a new WSDL to a SOAP Service using document upload functionality. • **Request Subscription** - Create a subscription for the artifact. • **Export** - Create ZIP archive for the artifact and its sub-artifacts. • **New Version** - Create new version of the artifact and its sub-artifacts. • **Atom Feed** - Publish feed for artifact changes or artifact comments. For details, see "How to Use Feeds" on page 152. • **Artifact Comments Feed** - Subscribing to the feed allows you to view the latest updated comments on the artifacts. • **XML View** - Shows the code view of the artifact. • **Change Domain** - Move the artifact to another domain. • **Generate Document** - Displays the API document associated with the artifact.
Last Edit	Displays the user and time for the last change to the artifact.
Policy Compliance	Displays the current compliance status with an option to recalculate it.
My Tasks	Displays any actions you may be required to perform related to the artifact. For details, see "How to Use Tasks" on page 150.
Add to Favorites	Click this button to add the artifact to Favorites. Once the artifact is added, the button changes to Favorite button instead. Click this button again to remove it from Favorites.
Keywords	Displays any custom tags applied to the artifact with the option to edit them.
Contacts	Displays the contacts for the artifact with the option to edit them.

Documentation Tab

The Documentation tab provides a place to view and manage the documents associated with the artifact. There are 3 sub-tabs as follows:

Attached Documents

Attached Documents are Documentation artifacts associated with this artifact. For example, a project planning documents of a project.

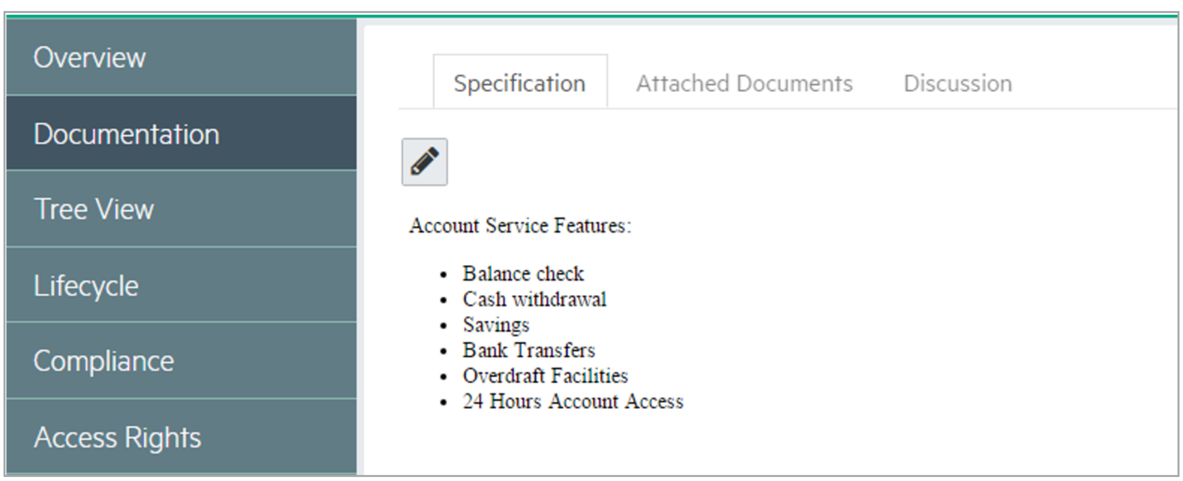


Attached Documents Sub-tab Content

Content	Description
Documentation Table	Displays list of documents associated with the artifact with functionality to manage them and add more.

Specification

The Specification sub-tab provides a place to view and manage a detailed description of the artifact including rich text and HTML support.

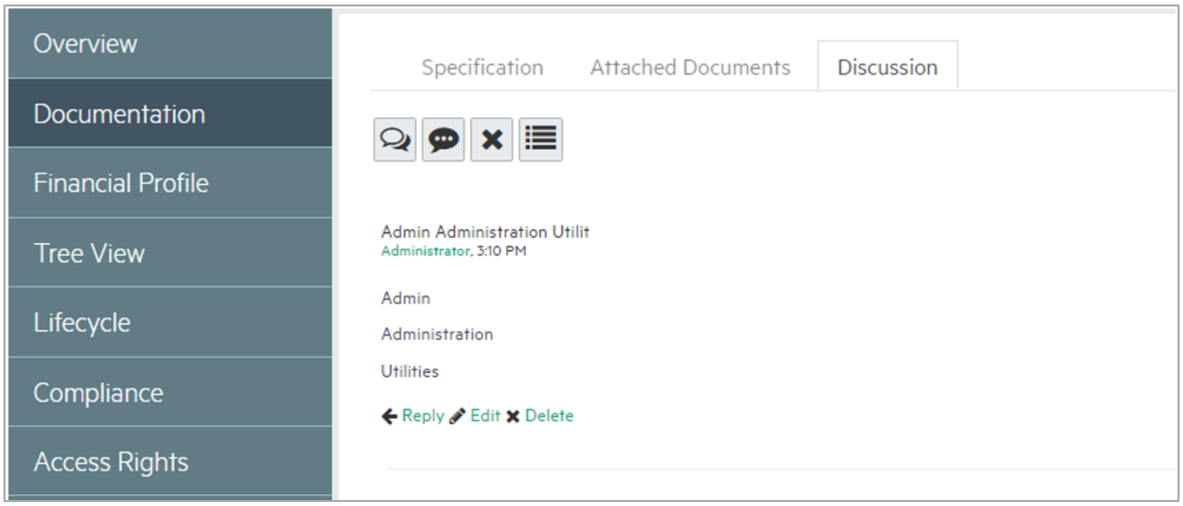


Specification Sub-tab Content

Content	Description
Detailed Description	Displays full description of the artifact.
Edit Specification	Changes the Detailed Description area to an input form with rich text and HTML support.

Discussion

This sub-tab provides a forum for users to comment and discuss the artifact.



Discussion Sub-tab Content

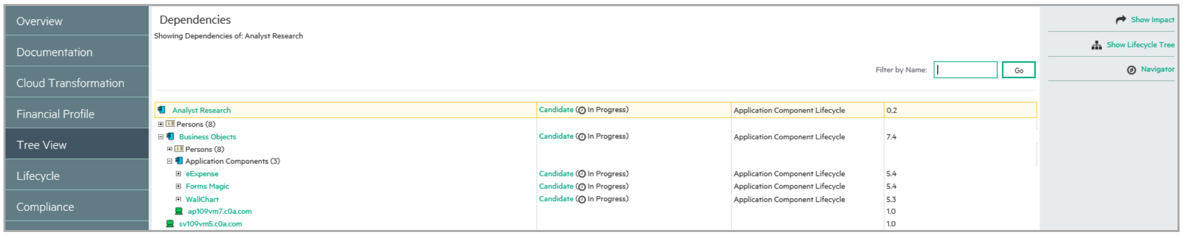
Content	Description
Discussion Threads	The main part of the page displays discussion threads and comments about the artifact with options to **Reply**, **Edit**, and **Delete** comments.
Context Actions	Displays a set of discussion context actions for the artifact. The available actions include the following: • **Show List / Threads** - Organize the discussion by comments or by threads. • **Sort** - In the list view, organize the comments by newest or oldest first. • **Add Comment** - Start a new discussion about the artifact. • **Delete All Comments** - Remove all comments and threads about the artifact (administrator only). • **Artifact Comments Feed** - Obtain a feed URL that you can use in a feed reader or in the Reports Tab. For details, see "How to Use Feeds" on page 152.

For details about using the Discussion features, see "How to Use Comments" on page 145.

Tree View Tab

The Tree View tab allows you to explore the impact and dependency of the current artifact.

The default Dependency shows the tree view of artifacts that the current artifact depends on.

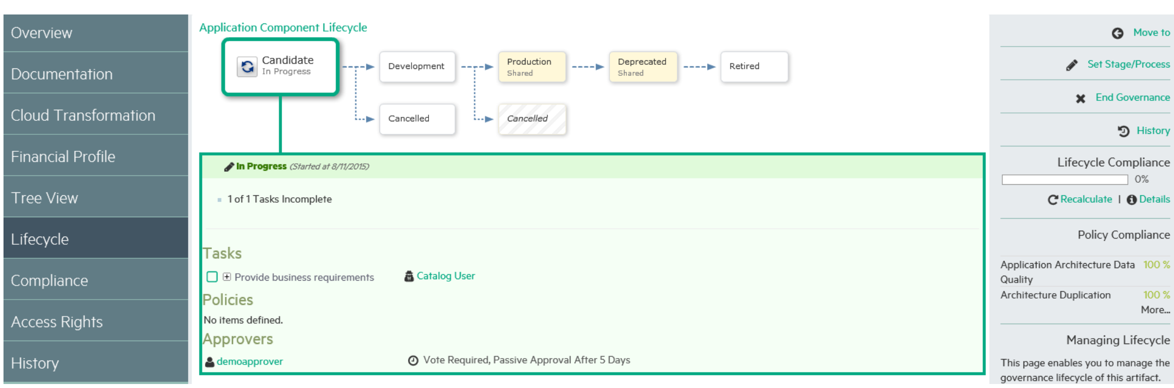


Tree View Tab Content

Content	Description
Filter	Use the filter to highlight specific artifacts from the tree.
Artifact Tree	The tree displays impacting artifacts in Dependency view or impacted artifacts in the Impact view, organized by artifact type. Expand groups of artifact types and click artifact names to view their details.
Show Impact	Click to see the impact the current artifact has on the tree of artifacts.
Show Lifecycle Tree	Click to switch over and view the tree of artifacts that follow the current artifact in the lifecycle process.
Navigator	Open the graphical navigator view for the artifact.

Lifecycle Tab

The Lifecycle tab provides a visualization of the life cycle process to which the artifact belongs, and the functionality required to participate in its life cycle.

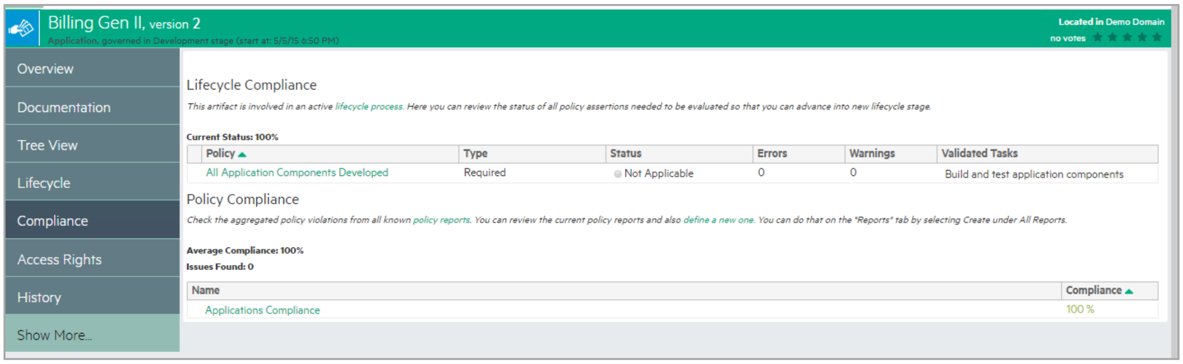


Artifact Lifecycle Tab Content

Content	Description
Lifecycle Process	The top part of the view displays the lifecycle stages for the lifecycle process the artifact belongs to. The larger stage box is the current stage in progress and the box highlighted in green matches the stage detail information below. Click a stage to view its details and use the arrow controls to view stages that are off the page.
Stage Details	The large green box displays the stage details for the stage selected above. For the current stage, the details start with a summary of the current lifecycle status. For all stages the details box displays the tasks, policies, and stage approvers. As a participant in the lifecycle you can use the stage details box to mark lifecycle tasks as complete, to validate policies associated with the stage, and to approve or reject approval requests.
Context Actions	Displays a set of context actions for the artifact relevant to its current lifecycle status and your role. The available actions include the following: • **Start Governance** - Put a non-governed artifact into an appropriate lifecycle process. • **End Governance** - Remove the artifact from a lifecycle process. • **Set Stage/Process** - Change the current stage and lifecycle process for the artifact (administrator only). • **Request Approval** - Request approval for the current lifecycle stage for the artifact. • **Cancel Approval** - Cancel an approval request. • **Notify Approvers** - Send a notification by email to the stage approvers. • **History** - View the lifecycle history for the artifact.
Compliance	Displays the current compliance status with an option to recalculate it.

Compliance Tab

The Compliance tab provides a detailed view of the policies that applies to the current lifecycle stage that the artifact belongs to with an option to view the XML representation of the resources that the policies validate.

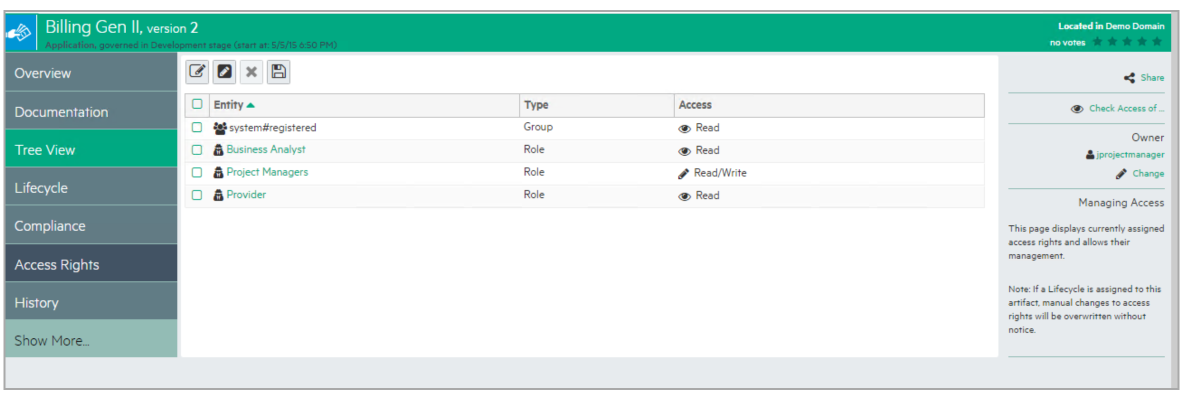


Compliance Tab Content

Content	Description
Show	Switch between the Policies view and the Annotated Sources view.
Policies	The table of currently applicable policies, their type, and current status.
Annotated Sources	Provides a detailed XML view of the relevant resources that the policies validate. This view is most useful to assertion and WSDL developers resolving validation errors.

Access Rights Tab

The Access Rights tab provides a detailed view of the users, groups, and roles with permissions for the artifact and access management actions for users with appropriate permissions.



Access Rights Tab Content

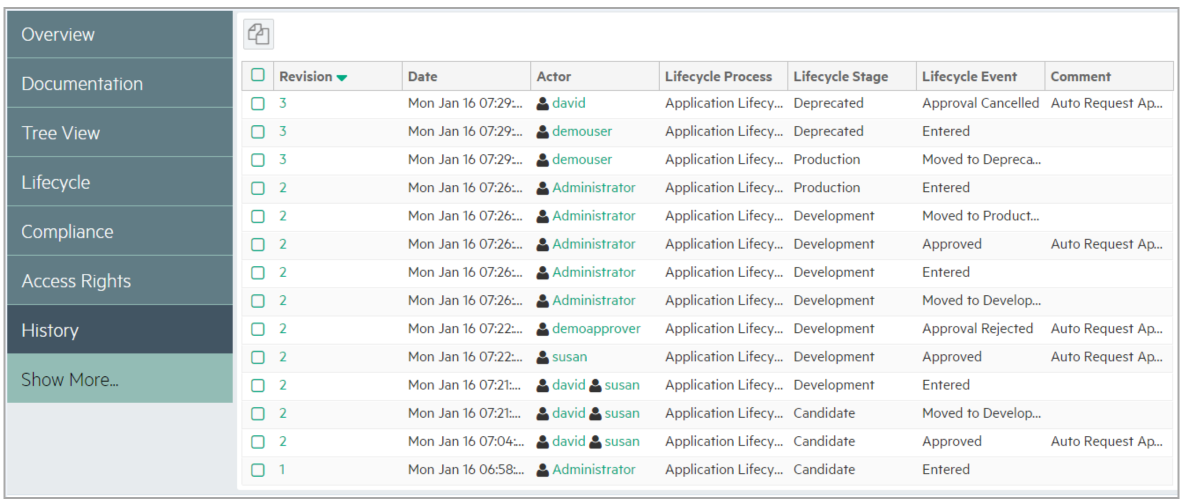
Content	Description
Access Rights Table	Displays the users, groups, and roles with permissions for the artifact and their rights. Users with appropriate permissions can manage the access rights using the table actions.

Access Rights Tab Content, continued

Content	Description
Context Actions	Displays a set of discussion context actions for the artifact depending on your role and artifact permissions. The available actions include the following: • **Share** - Make the artifact visible to all users by giving them all read permission. For details, see "How to Share Artifacts" on page 155. • **Check Access Of** - Verify the access rights for a particular user.
Owner	Displays the current user, group, or role ownership for the artifact with the option to change it for users with appropriate permissions.

History Tab

The History tab provides a detailed view of the revisions of the artifact with functionality to compare revisions.

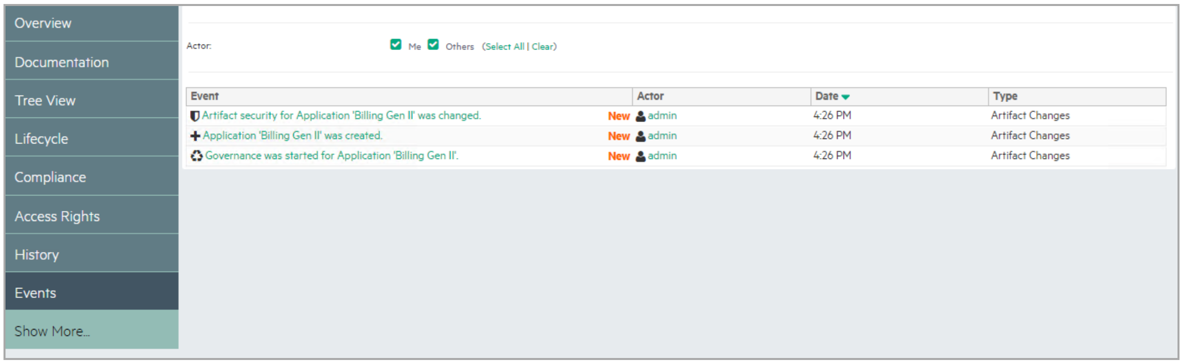


History Tab Content

Content	Description
Revisions Table	Displays a list of the revisions with details about the time of the change, who performed it, and lifecycle details. The **Actor** column reflects the name of the approver, name of the person who rejected, the name of the person who moved the lifecycle from one stage to another, and name of the person who cancelled. In case there are three users, two of them have approved and one of them has rejected, the name of the approver and the person who rejected will be displayed as separate rows.

Events Tab

The Events tab provides a detailed view of the actions performed on the artifact.

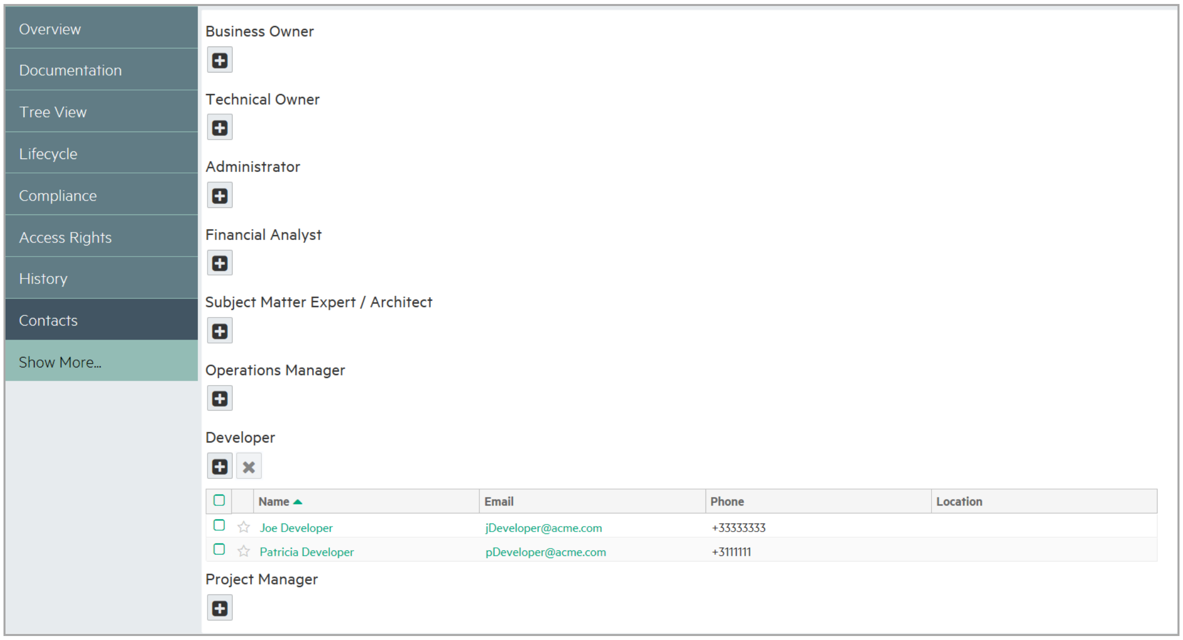


Events Tab Content

Content	Description
Events Table	Displays a list of the actions performed on the artifact with details about the time of the change, who performed it, and the type of action. Click an event to view the relevant artifact details or use the **Actor** filter to reduce the set of events to those you performed or those performed by other users.

Contacts Tab

The Contacts tab provides a detailed view and management options for contacts for the artifact organized by their contact type.

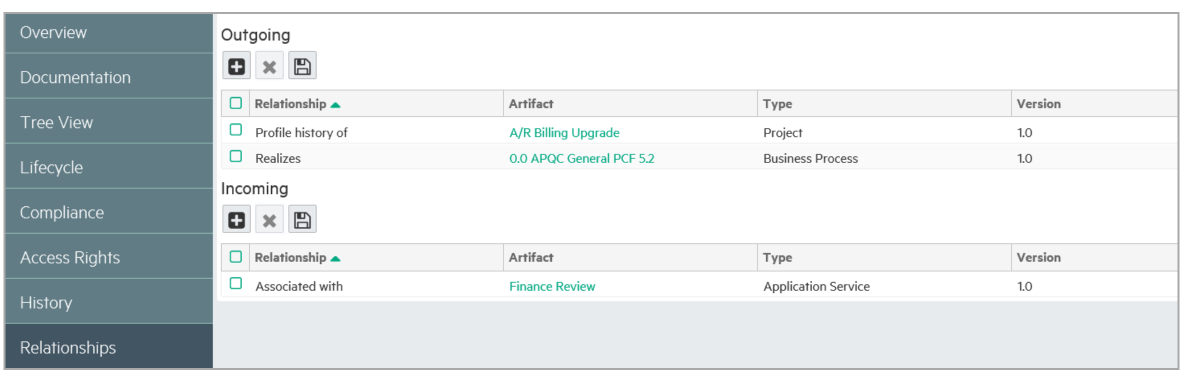


Contacts Tab Content

Content	Description
Contacts	The set of contacts for the artifact organized by contact role. Users with appropriate permissions can manage the contacts.
Send Message	Send a notification email to selected users. For details, see "How to Use Notifications" on page 146.

Relationships Tab

The Relationships tab provides a detailed view of the related artifacts organized by outgoing and incoming relationships.



Relationships Tab Content

Content	Description
Relationship Tables	Displays the set of outgoing and incoming relationships with details of the related artifact, its type and version, and the relationship type.

Relationship Editor

The HPE Systinet relationship editor enables you to view and modify artifact relationships directly. The relationships are shown on the Overview tab view. You can add new or manage relationships by using the Relationship tab view.

This section covers the following topics:

Understanding Relationship Types

The relationships between artifacts represent one of the most significant aspects of authoring and artifact management. For each artifact type, the SDM Model defines a set of relationships where each named relationship defines a link between that artifact type and another artifact type which is expected to be associated with it.

Relationships can be broadly divided into the following types:

1. **Dependencies**

   A Dependency is a directed relationship indicating that an artifact uses another artifact. For example, Service A may have a depends on relationship to Service B to indicate that Service A uses Service B and that any change to the Service B should take into account the impact on Service A. Contract relationships are a specific example of dependency relationships indicating the contractual use of an artifact according to specified usage terms. Various functions in the UI offer an Include Dependencies option (for example, Export to ZIP Archive) which takes these dependencies into account when performing actions on an artifact.

The inverse of a dependency is an Impact. Impact enables you to view the dependent artifacts which may be affected by a change to an artifact. The most useful way to view impact and dependencies is in the Navigator view.

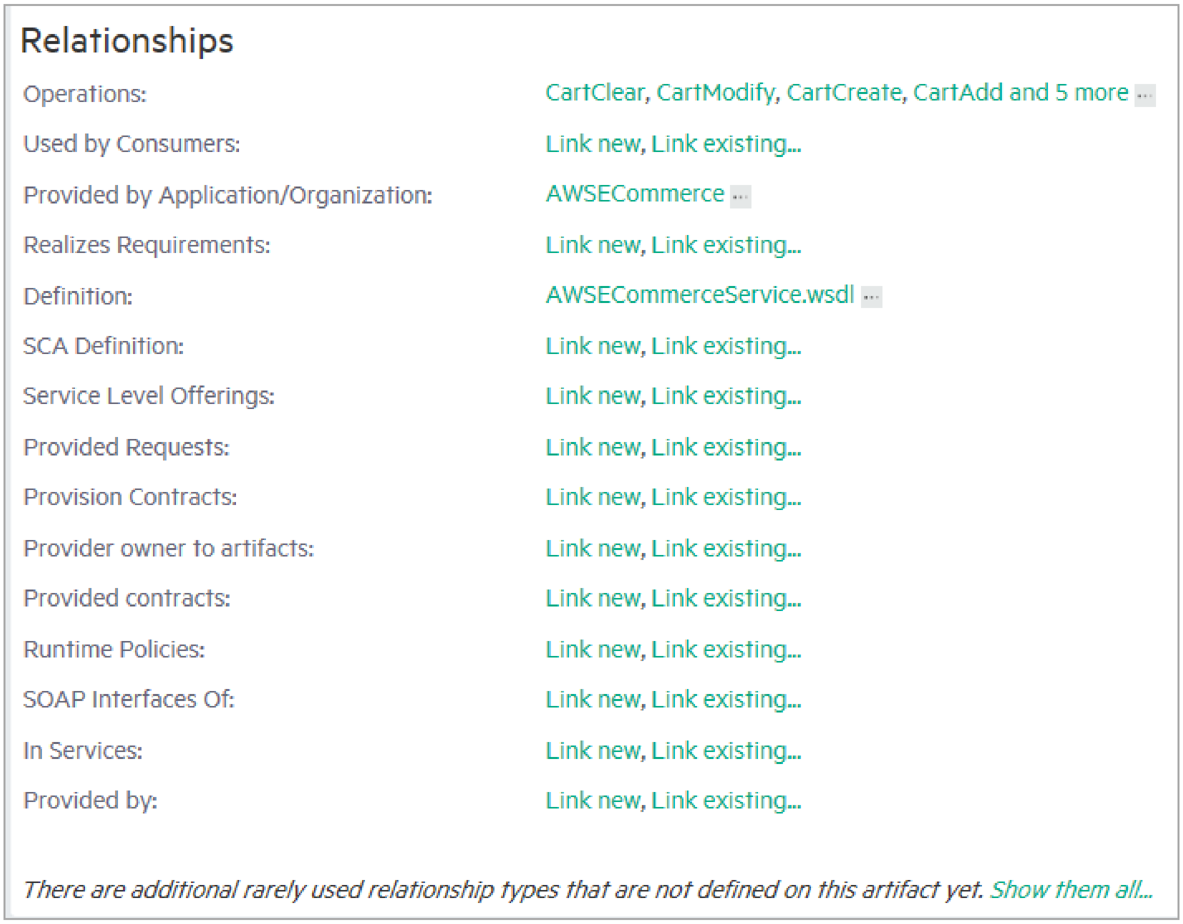
2. **Aggregations**

   Aggregation relationships enable a set of related artifacts to be represented as a single abstraction in order to perform operations on the entire set. For example, a service aggregation consists of not only the service itself, but also its implementations, operations, endpoints, SLOs, documentation, etc.

3. **Unclassified Associations**

   In addition to relationships in the public model, there are additional system relationships which Systinet automatically applies in specific circumstances. For example, when you create a new version of an artifact, a previous version relationship links the new version to the old one. This relationship enables you to notify users of the old version when the new version is ready to use.

The user interface provides extensive support for named relationship types, showing the most important relationship in the Overview tab of Artifact view page.



Each relationship that you create for an artifact has another paired artifact. Each member of the paired relation is assigned a unique name, representing the outgoing and incoming relation between the artifacts.

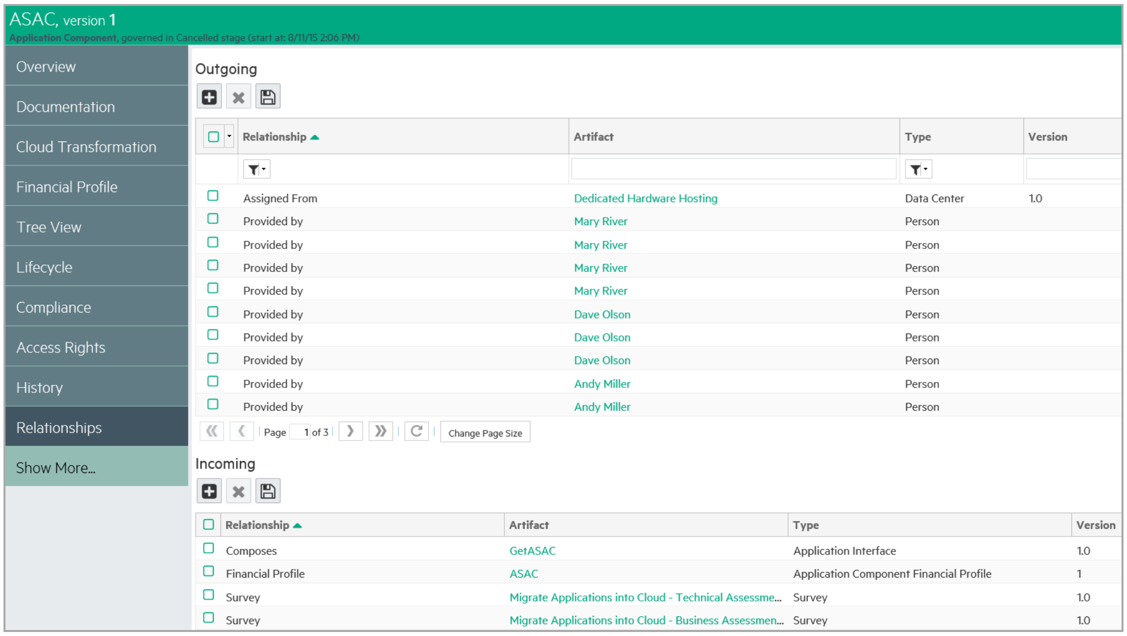
To explain better, an outgoing relation between artifacts A and B automatically implies the corresponding incoming relation between B and A. Outgoing relations are properties of source artifact (A), whereas incoming relations are projections of the outgoing relationships with target artifact (B).

You might want to assess the outgoing and incoming relationships listed for a selected artifact, so as to browse through the data and learn the relationship structure of the artifact.

To view the outgoing and incoming relationships of a selected artifact, follow these steps:

1. Select the artifact in the Catalog Browser or in the Navigator, and then open the artifact.

2. Click the **Relationships** tab. The artifact's relationships are shown, grouped by direction.



Using Relationships Editor

The Overview tab shows all related artifacts of the current artifact under Relationships section. By default, only commonly used relationships are shown. However, you can click *Show them all...* to show all relationships that are compliant for the current artifact.

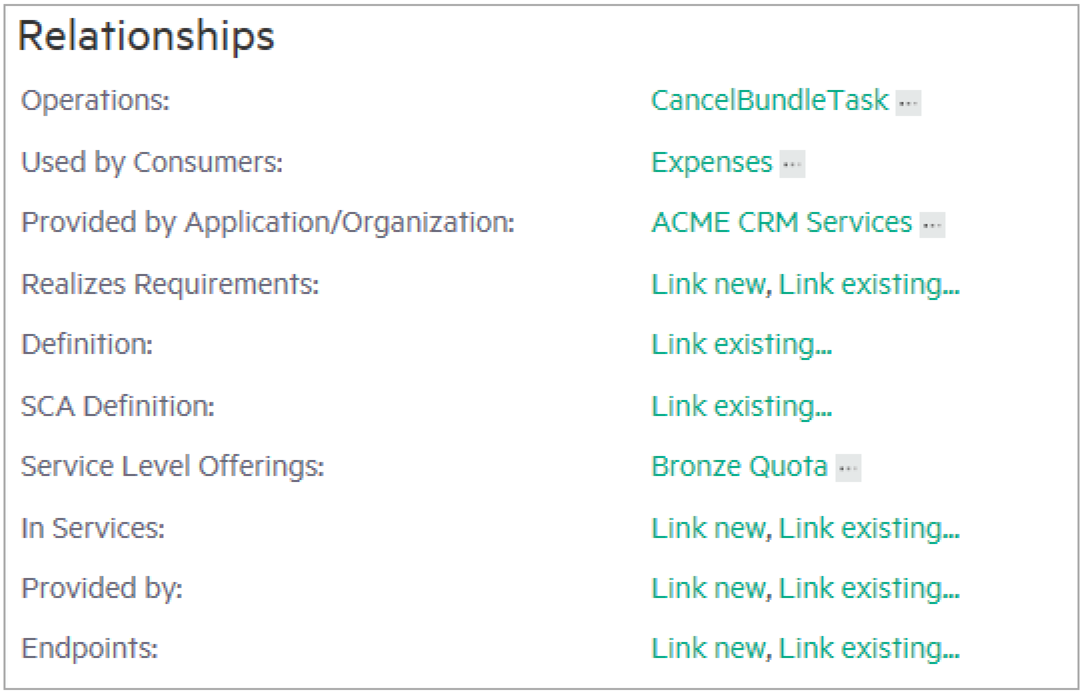
If you have many related artifacts of a single relationship type, then by default only 4 most recently modified artifacts are visible. To view all related artifacts click the **More...** button that opens related artifacts in table view.

The quantity of related artifacts shown by default (4) can be customized by editing the value of system property `platform.ui.relationship.artifact.max`. For details, see *How to Manage System Properties* in *HPE Systinet Administration Guide*.

Adding an Artifact Relationship

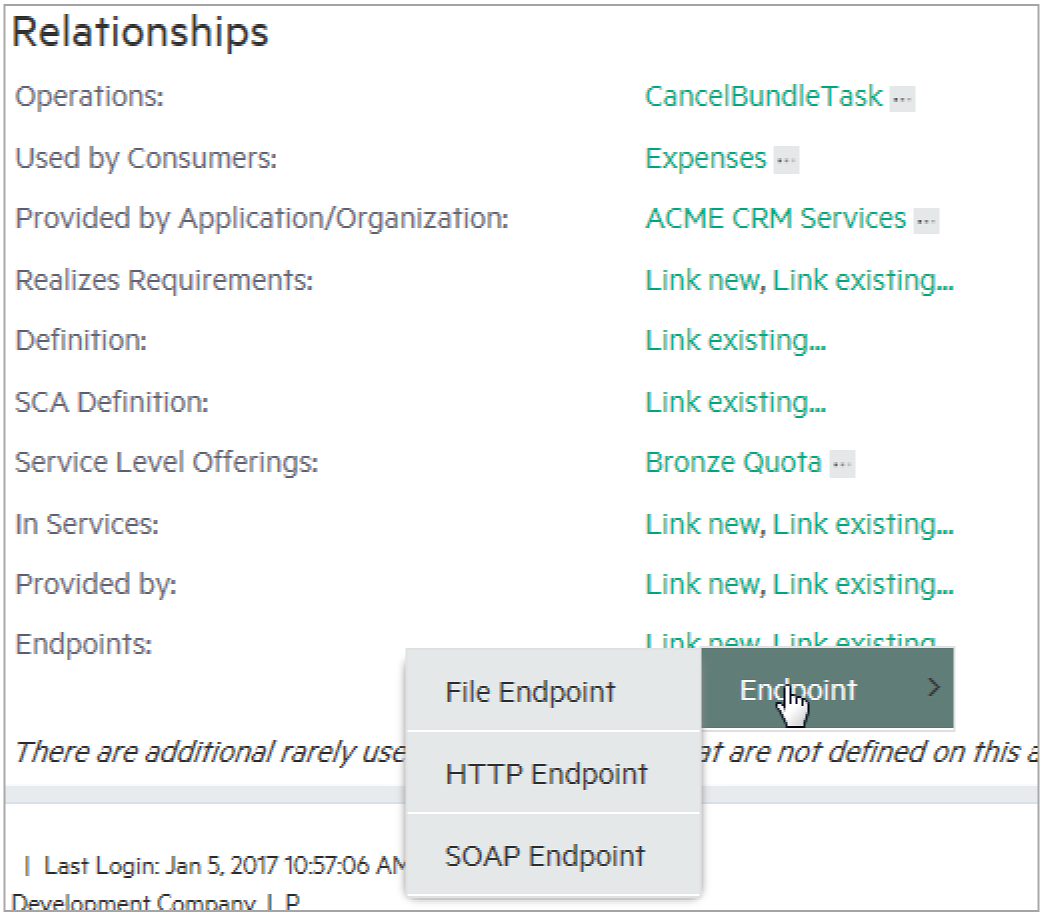
To add relationships to existing artifacts or create new artifacts to relate to:

1. Select the artifact in the Catalog Browser or in the Navigator, and then open the artifact.
2. There are Link new and Link existing buttons available next to the relationship type that you can use to create a new artifact or link to existing artifacts.

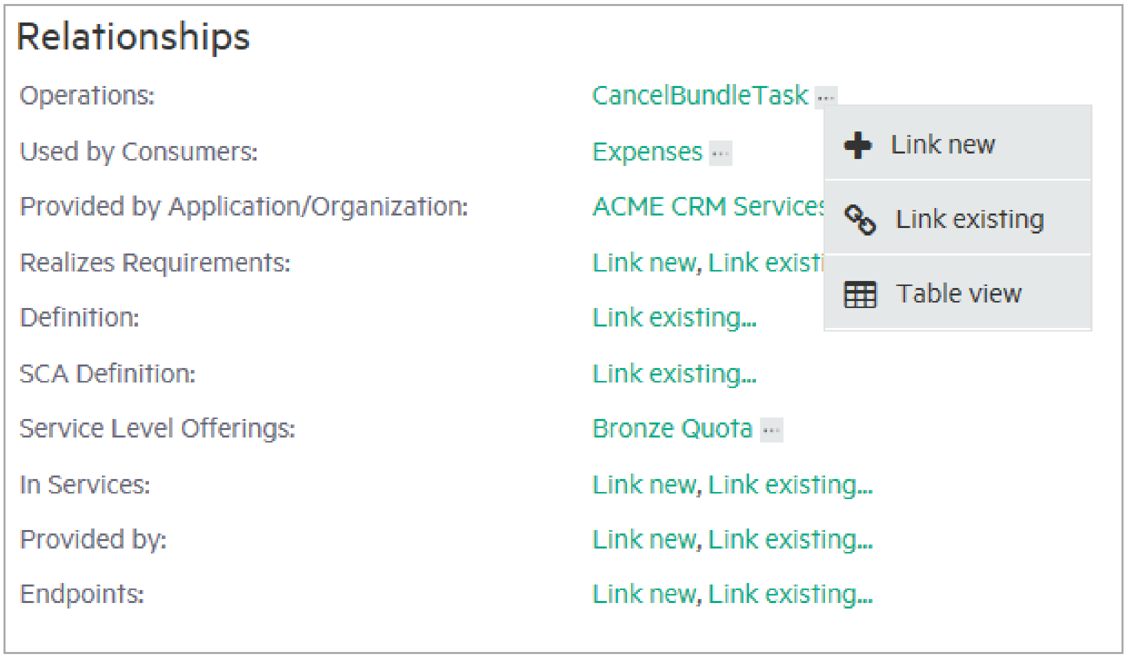
   

3. When you click the Link new button, the available artifact types will appear in a menu. Only an applicable artifact type is visible when you click the Link new or Link existing buttons. After establishing a relationship to one or more artifact(s), the menu is replaced with a list of existing relationships. You can link to an existing application or a component.

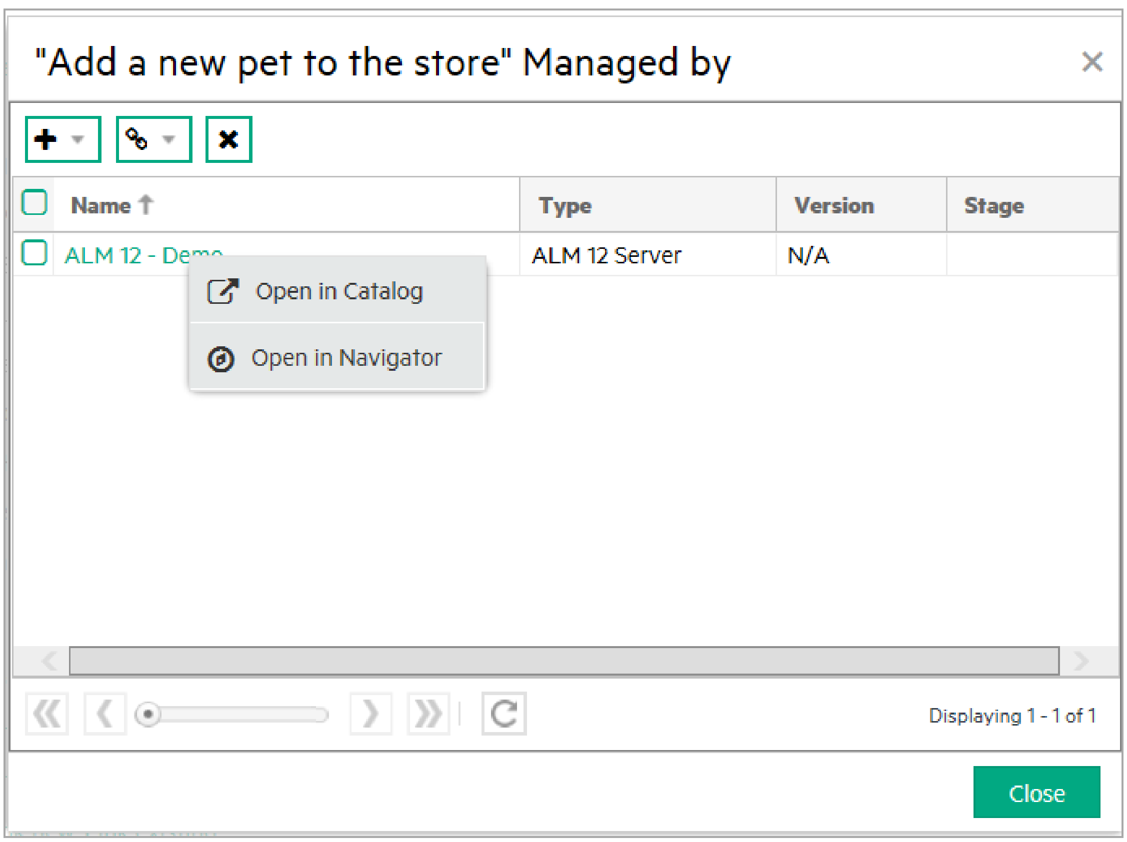
   For example, when you click Link new in the Endpoints relationship type, the menu displays the available artifact types.



4. For artifact types that already contain data, the Link new and Link existing buttons will be hidden from view. You can add more artifacts to this relationship type by clicking on the relationship type name. You will see a separate menu for managing the relationship, which includes the option to view the relationships in a table view:



5. If you choose to view in Table View, each row has a context menu to open an artifact in the Catalog or Navigator:

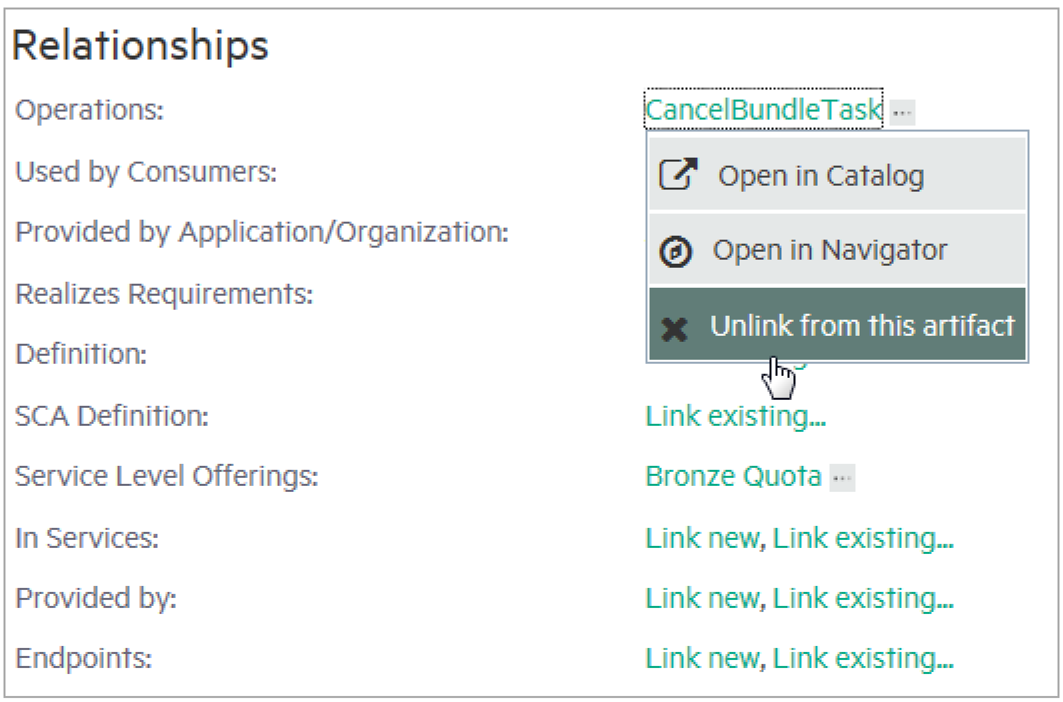


> **Note:** When you link more than 10 existing artifacts to a relationship, the operation is asynchronous, i.e., the relationship is not updated immediately after the page load, instead the progress is displayed. Once the asynchronous operation is complete, a summary information is displayed.
>
> Otherwise, the operation is synchronous, i.e., the relationship is updated immediately. Both synchronous and asynchronous operations are applicable for deleting artifacts from a relationship.

Removing an Artifact Relationship

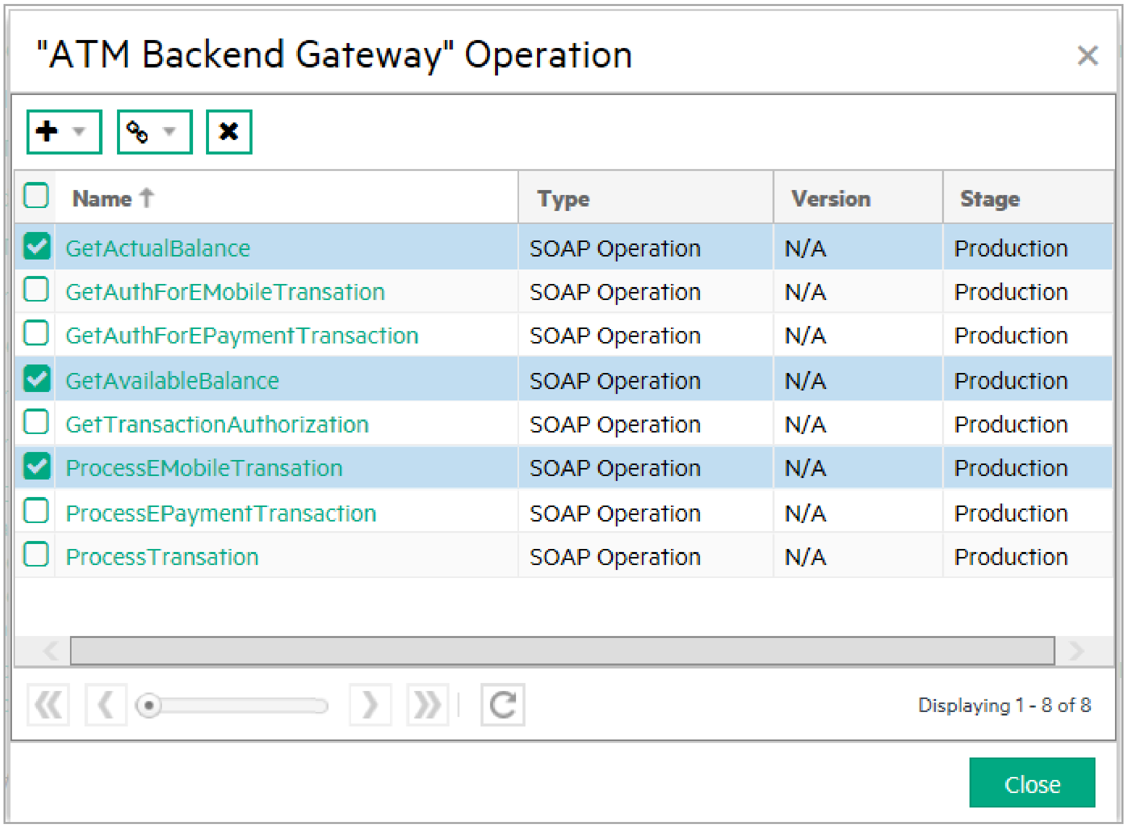
To remove existing artifact relationships:

1. Select the artifact in the Catalog Browser or in the Navigator, and then open the artifact.
2. From the Overview tab, you are able to remove the link between the selected artifact and another artifact. For removing a specific artifact link from a current artifact, right-click on the artifact you want to remove, and click **Unlink from this artifact** to remove artifact relationships.



3. You can also remove a set of artifacts linked to a the selected artifact while in the Table view, by

selecting each artifact you wish to remove from the list.



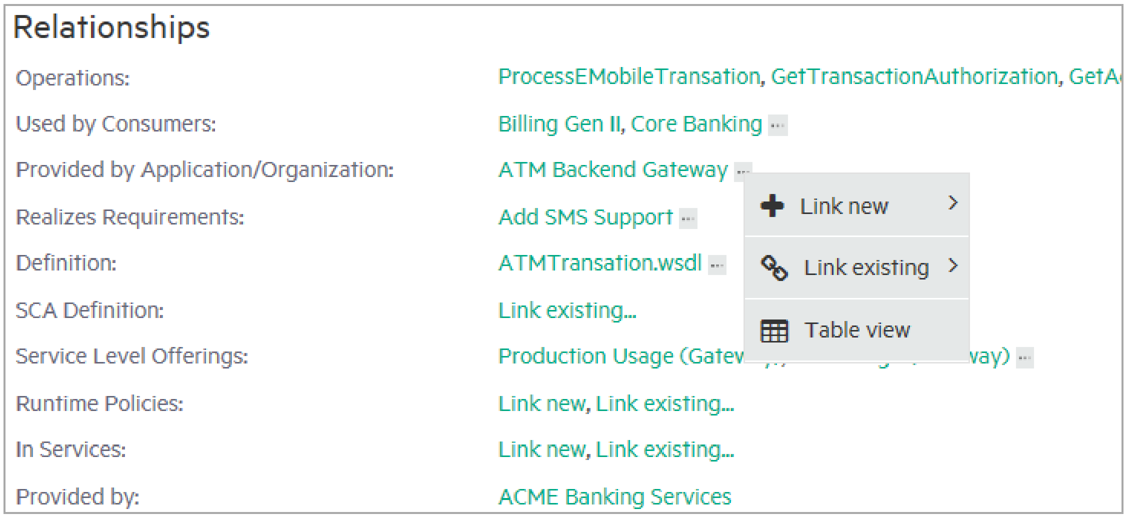
Adding and Removing a Shortcut

You can create shortcut without using the Relationship Editor or Relationships tab of an artifact.

To add shortcut, follow these steps:

> **Note:** Make sure that the `canBeEntered` attribute is set to *true* in the shortcut definition.

1. Open the Overview page of the source or target artifact in a shortcut.



2. Click the icon next to the shortcut.

> **Note:** There must be at least one shortcut created for the artifact.

3. Select the **Link new** to create a shortcut to a new artifact.
4. Select **Link existing** to create a shortcut to an existing artifact.

> **Note:** When opening the source artifact of a shortcut, Link new/Link existing creates a shortcut to the target artifact and vice versa.

To remove a shortcut, follow these steps:

1. Right-click the target artifact and select **Unlink from this artifact**

   or

   Alternatively, from relationship table view of shortcut relationship, select target artifact(s) and click .

> **Note:**
>
> - Calculated shortcuts based on relationships with other artifacts cannot be removed.
> - Shortcuts created by Shortcuts Consolidation Task cannot be removed. These shortcuts have at least one path which is resolved from shortcut definitions.

Publish Content

HPE Systinet enables you to upload data content with specific support for definition documents that describe application infrastructures. Systinet processes the content of the document and enables you to create or modify artifacts to represent this infrastructure in Systinet.

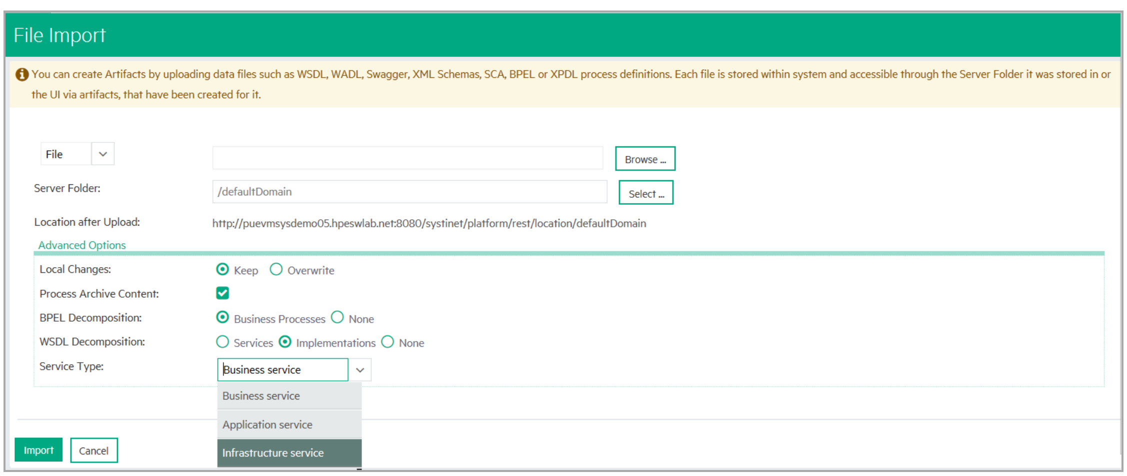
Systinet can process the following definition document types:

- Web Service Definition Language documents (WSDL)
- Web Application Description Language documents (WADL)
- Swagger
- Business Process Execution Language documents (BPEL)
- XML Process Definition Language documents (XPDL)

> **Note:** The WADL file containing the DDT code inline is not allowed to be parsed due to security risk. To enable parsing of the data we need to change the value of `platform.publishing.disallowDoctypeDecl` system property to `false`.

To publish the data content, follow these steps:

1. In the homepage, depending on the data content to be published, click the **Publish WSDL/WADL/Swagger** or **Publish XPDL/BPEL** or **Import > File**, respectively. The **File Import** window is displayed.

2. Select **File** or **URL** from the drop down list.

   If you select **File**, click **Browse** and select the file. If you select **URL**, enter the URL in the text box.

3. Select the **Server Folder**.

4. Click **Advanced Options** and select from the following options:

<table>
<tr><th>Option</th><th>Description</th></tr>
<tr><td>Local Changes</td><td>Select whether to preserve local copies that are different or overwrite them.</td></tr>
<tr><td>Process Archive Content</td><td>Select to extract an archive and publish all the content (default option). If not selected, the archive is published as a Documentation artifact with attached data content.

Note: By default, this functionality supports ZIP, JAR, EAR, WAR, and BPR. Other archive types are not processed by the publisher and are published as documentation artifacts with attached data content. The administrator can configure the types of archive that the publisher processes.</td></tr>
<tr><td>BPEL Decomposition</td><td>Select whether to create Business Process artifacts defined by a BPEL document.</td></tr>
<tr><td>WSDL Decomposition</td><td>Select a WSDL processing level from the following options:
Services - Process any WSDLs, create all defined content and create business services to associate with any newly created implementations.
Implementations - Process any WSDLs and create all defined content. Business services are not created.
None - Publish any WSDLs as artifacts with attached data content. The WSDL files are not processed.</td></tr>
<tr><td>Service Type</td><td>Select a service type from the available options:
Business Service - A specific business function that offers an interface to users for interaction which is designed for reuse in multiple applications.
Application Service - A business function associated with a specific application. Typically identified and defined by application developers and specific to the application scope.
Infrastructure Service - A technical support function, such as authentication or logging, designed for reuse in multiple applications and services.</td></tr>
</table>

5. Click **Import**. The import report page opens showing the publishing task in progress.

   The import page displays the result of the publishing process, showing all files including any additional files referenced by the uploaded file.

This process executes as a bulk operation. An information bar opens informing you that the operation is in progress with a progress bar with options to Stop the operation or to Notify Me when the operation is complete.

The operation executes asynchronously, so you can navigate away and perform other tasks while the operation completes.

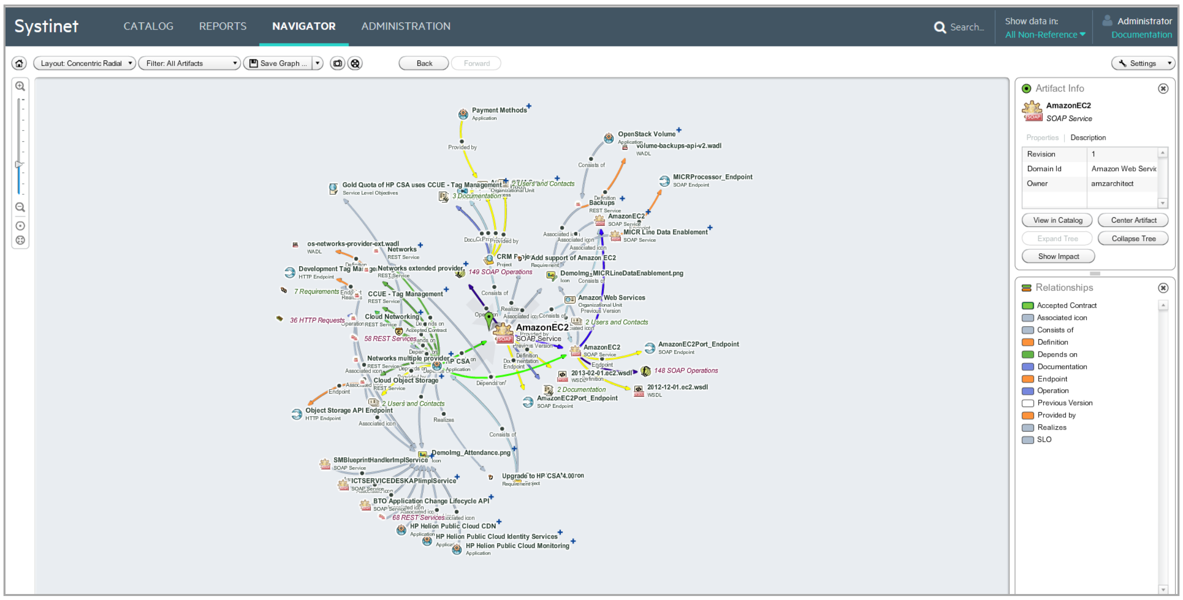
For more information, see "Publishing" on page 78.

For information on HTTP Status Codes and HTTP Headers, see Apendix A and Appendix B, respectively.

Chapter 3: Navigator

The Navigator tab graphically represents the content of a catalog. The Navigator displays the structure and dependencies of the applications, services, and processes in the Catalog, rather than focusing on a details of single artifact.

Navigator provides an alternative pictorial view, to explore, browse, and traverse across the Catalog content.



The main features of the Navigator are as follows:

- **Catalog Browsing**

  Allows you to browse the content of the Catalog in an easy and quick manner.

- **Layouts**

  Enables you to view artifact graphs by selecting different layouts. You can organize the artifacts into various structures to view a particular aspect of their relationship. There is also the option to create customized layouts if you wish to focus on specific relationship structures.

- **Filters**

  Provides a set of filters on artifacts of each architectural layer, and the option to create custom filters.

- **Save Graphs**

  Allows you to save a particular graph with the selected layout. You can return to the saved graph at a later time. The graph is interactive and lets you move or expand it, or collapse nodes to change the appearance.

- **Impact Highlights**

  Enables you to view the impact of change to an artifact (impact analysis).

- **Screenshots**

  Enables you to create an image file with graph layouts.

Understanding the Navigator Graph

Each node in the artifact represents an artifact or a group of artifacts, denoted by an artifact icon.

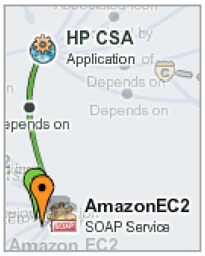
The content of the graph is determined by the filter. The navigator contains a number of default filters targeted at particular user roles and you can create your own custom filters.

The artifact and relationship annotations are determined by the Settings control.

The structure of the graph is determined by the layout. The navigator contains a number of default layouts highlighting particular relationship structures and you can create your own custom layouts.

An artifact node can display in the following ways:

	A fully expanded node representing a single artifact with all its relationships expanded and shown in the graph. This diagram shows a SOAP Service with several outgoing and incoming relationships. The relationship types are labeled and color-coded as shown in the Relationships information box.
	A node marked with a green flag. This node is the subject of the Artifact Info box. Click a node to make it the subject for the Artifact Info box.
	A collapsed node representing a single artifact with further relationships collapsed and hidden in the graph. This diagram shows a Service with an outgoing relationship. Further relationships are collapsed and represented by +. Double-click the node, use the Expand Tree node context action, or the Expand Tree action in the Artifact Info box to view these relationships.

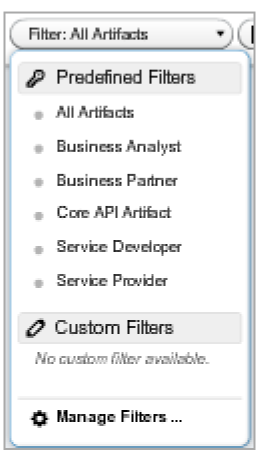
<table>
<tr>
<td>
</td>
<td>
A collapsed node representing a group of artifacts.
This diagram shows a set of operations collapsed into a single group. Double-click the group, use the Expand node context actions, or the Expand actions in the Artifact Group Info box to view the individual artifacts in the group.
</td>
</tr>
<tr>
<td>
</td>
<td>
A node marked with an orange flag. This node is the subject of the current impact view.
To View the Impact of an Artifact, perform one of the following:

In the Navigator graph, right-click and open the context menu for the artifact node and select Impact Highlight.
In the Artifact Info box, click Show Impact.

The artifact is highlighted with an orange flag and an Impact legend box opens displaying the selected artifact. All related artifacts that are potentially impacted by a change to this artifact are highlighted, and all other artifacts are dimmed.
Remove the impact highlighting by closing the Impact legend box, or right-click and open the context menu for the highlighted artifact and select Impact Highlight.
</td>
</tr>
</table>

Navigator Filters

The Navigator provides a set of filters enabling you to focus on the artifacts that matter to your role. The filter determines the content of the graph by defining which artifacts display, when to group a set of artifacts, which relationships to show, and what color each relationship uses.



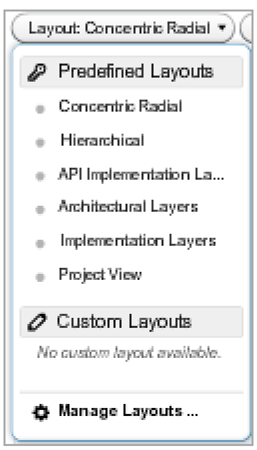
Access Navigator Filters, using the Filters toolbar control. Select from the following predefined filters which the administrator can edit:

- **All Artifacts** - Displays all artifacts that your role has permission to view.
- **Business Analysts** - Focuses on applications, projects, services, processes, and their implementations, and contract related artifacts.
- **Business Partner** - Focuses on services and their implementations, and contract related artifacts.
- **Core API Artifact** - Focuses on core API artifacts.
- **Service Developer** - Focuses on the implementation of services, showing services, their implementations, and service description documents.
- **Service Provider** - Focuses on the provision of services, showing services, their implementations, endpoints, and operations.

> **Note:** The choice of filters is restricted to those appropriate to your role.

Navigator Layouts

The Navigator offers a number of alternative layouts providing different ways to view Catalog data, enabling you to visualize your data in the way that best suits your needs.



Access Navigator Layouts, using the Layouts toolbar control. Select from the following predefined layouts:

- **Concentric Radial** - The default graph layout places the current artifact in the center of the graph and the related artifacts radiate outwards in all directions. This layout enables you to explore the immediate neighborhood of an artifact.

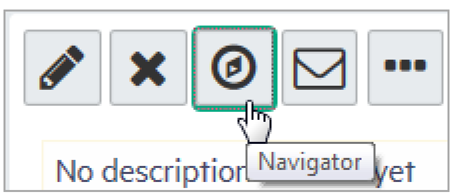
- **Hierarchical** - This layout organizes the graph into a vertical artifact hierarchy according to the artifact relationships and any defined artifact aggregation structures.
- **API Implementation** - provides the implementation layer of the APIs. It divides artifacts into Implementation, Interfaces, Request and Response layers.
- **Architectural** - provides a holistic view of your SOA architecture. It divides artifacts into Application, Process, Service, and Infrastructure Layers.
- **Implementation** - renders the internal architecture of services and their implementations. It divides artifacts into Services & Process, Implementation, WSDLs, and XML Schema layers.
- **Project View** - provides a view tailored to projects and their content. It enables you to analyze the dependencies between projects, their content, and used data types.

Navigator Tab

The Navigator tab provides an overview of an artifact and its relationships.

To view a Navigator Graph, do one of the following steps:

1. In the Overview tab of Artifact view page, click the **Navigator** context action. The Navigator tab is displayed showing the graph for that artifact.

2. Click the **Navigator** tab and click  to open the **Select an artifact to display** dialog box.

   > **Note:** If you have not opened the Navigator previously, the **Select an artifact to display** dialog opens by default. The default behavior of the Navigator tab is to open the previously viewed graph.

The Navigator tab displays the graph for the selected artifact.

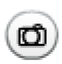
The **Navigator** Tab consists of the following elements:

- Navigator Toolbar
- Navigator Information Boxes

Navigator Toolbar

The Navigator toolbar contains the following functionality:

Navigator Toolbar Functions

Function	Description
Zoom	Use slider or the [+] or [-] controls to the left of the graph to change the size. The buttons below the slider enable you to reset the graph to its default layout and fit the whole graph on the screen.
	Open the **Select an artifact to display** and use the Search, Saved Graphs, Favorites, or Recent Artifacts functions to select a new artifact to view in Navigator.
Layout	Change the layout of the graph, selecting from the default layouts or your own custom layouts.
Filter	Change the graph filter, selecting from the default filters or your own custom filters.
Save Graph	Add the current graph layout to your saved graphs or select from previously saved graphs.
	Create and save an image file for the current graph.
	Open a full-screen view of the current graph. Click the button again or press Esc to return to the default navigator view.
Back and Forward	When re-centering or re-laying out a chart, the current graph is saved and a user can to go backwards and forwards to view the versions.
Settings	• Select to display the Artifact Info and Relationships. • Select to display the Artifact Type, Lifecycle Stage, or Version as the artifact node annotation. • Select whether to display relationships annotation.

Navigator Information Box

On the right of the graph there are a number of information boxes displaying information about the currently selected artifact, the relationships, and optional highlighting information for domains and impact.

The Artifact Info box displays information about the currently selected node highlighted with the green flag. Depending on the node there are the following types of Information box:

Artifact Info

Artifact Info	Description
View in Catalog	Exit the Navigator and view the artifact details in the Systinet UI.
Center Artifact	Make the artifact the focus of the graph.
Expand Tree	For collapsed nodes, expand the relationships to hidden artifacts.
Collapse Tree	Collapse outward relationships from this artifact.
Show Impact	Highlight the impact tree for the artifact.

Artifact Group Info

Artifact Group Info	Description
Expand All	Expand all the artifacts in a group.
Expand	Open the Expand Artifacts from Group dialog box to select the artifacts to view separately from the group.

The Relationships information box displays the color coding identifying the relationships in the graph. You can customize the relationship colors by creating your own filter.

The Impact and Domain information boxes display when you select to highlight these aspects of the graph.

Chapter 4: Reports

HPE Systinet provides many reports that you can run based on the artifacts in data model. On the Reports tab, you can access many artifact, policy, and custom reports. You can also customize the reports that appear on your dashboard.

The report type that you choose depends on the results, data format, and granularity that you require. The following are the report types to choose from:

- "Report Dashboard" below
- "Artifact Reports" on page 55
- "Policy Reports" on page 58
- "Contract SLO Monitoring" on page 59
- "Custom BIRT Reports" on page 61

Reports are customizable. Administrators can therefore create and deploy new reports without having to restart Systinet. For more details, see *Report Creation* in *HPE Systinet Customization Guide* or contact HPE sales representative for assistance.

Report Dashboard

Report dashboard is a collection of reports created for a purpose. For example, you can create a dashboard called Governance to give you an overview of the compliance level as a result of the Systinet policy reports.

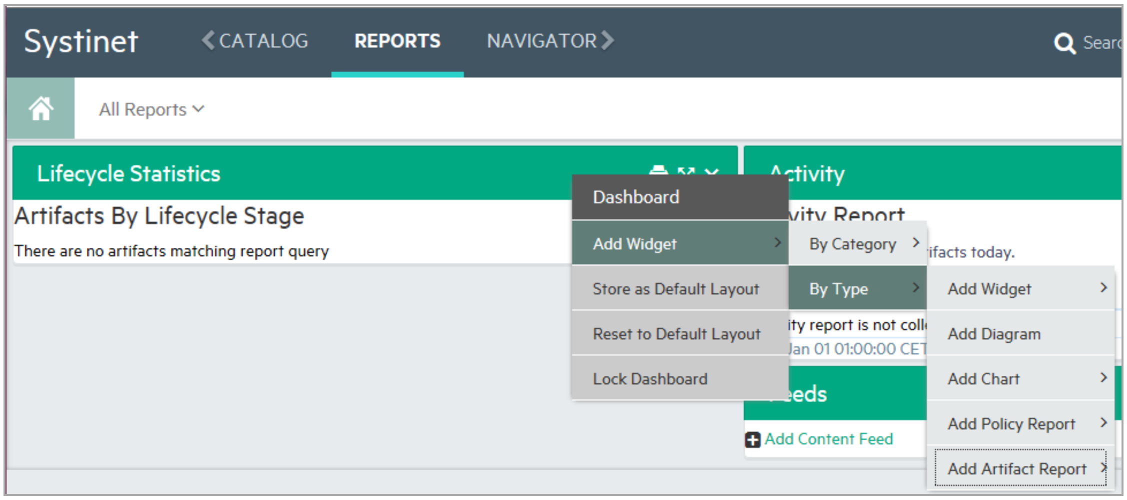
Report dashboard can be customized as per the requirement, or can be reset back to the default installation. You can also create new report dashboards for your own use. The following are the sub topics of report dashboard:

- "Adding a Portlet to Your Dashboard " below
- "Printing Portlet Content" on the next page

Adding a Portlet to Your Dashboard

To add a Portlet to your dashboard:

1. In the Reports page right-click to open the Dashboard menu as shown in the image below.
2. Select the portlet to add to your dashboard.

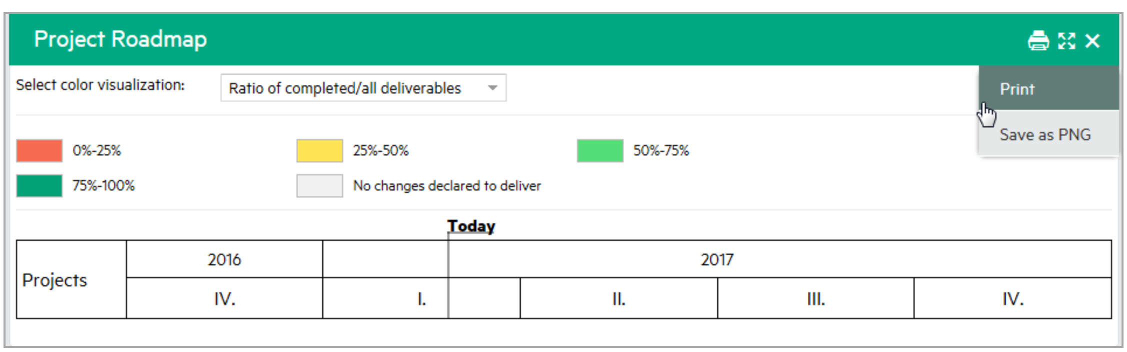


Printing Portlet Content

HPE Systinet provides the option to print dashboard portlet contents from the Reports tab. Using this feature, you can convert the report to PDF format. It is also possible to print a report to other formats. This depends on your browser configuration. However, this option is available for Artifact Statistic on the Reports home page. Other reports that can be printed are Data Matrix Reports and Rating Reports located on different sub-menu of the Reports tab.

To print the portlet content, follow these steps:

1. Select the report you wish to print.
2. Click the print icon to preview and print the report.



3. For each browser the print instruction may differ, follow the steps and then click **OK**.

4. Select **Shrink To Fit** on Print dialog or Printing Preferences to print the entire portlet content on a single page.

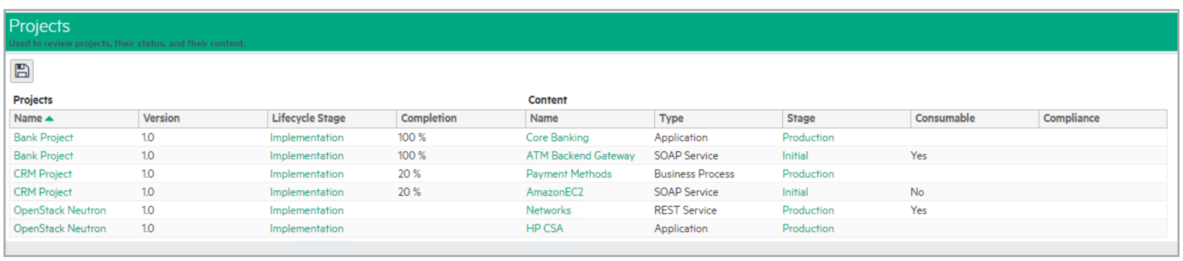
> **Note:** For print preview in IE, click **Internet Options > Security > Custom level**. Scroll down for the option **Initialize and script ActiveX controls not marked as safe for scripting** and select **Prompt**. Restart your machine and click the print icon to see the print preview.
>
> For Chrome the print preview shows automatically upon clicking the print icon. Firefox does not support print preview.

For good print results, set the following in your browser Page Setup or Preview page:

1. **Mode**: Landscape
2. **Paper size**: A3 or larger
3. **Background graphics / Print Background (colors & images)**: must be selected

Artifact Reports

HPE Systinet artifact reports provide table views of the artifact data contained in the HPE Systinet repository. The report is designed and used directly in the HPE Systinet web UI. The artifact table represents the result of a DQL query that is part of the report definition. Artifact reports are re-calculated every time the user accesses the report’s web UI page.


Projects
Used to review projects, their status, and their content.

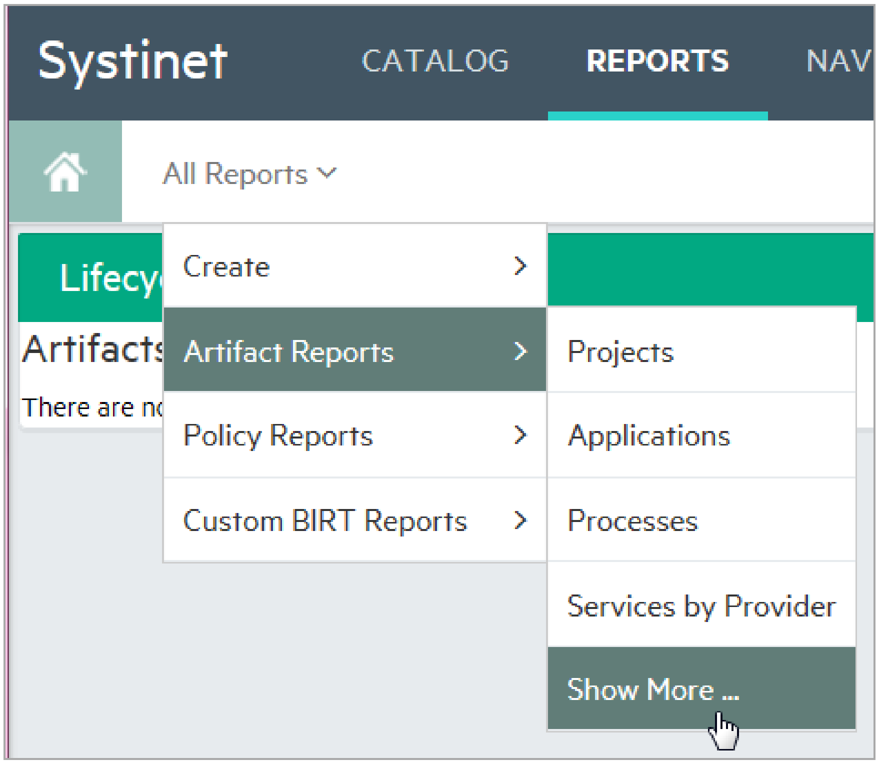
Projects				Content				
Name	Version	Lifecycle Stage	Completion	Name	Type	Stage	Consumable	Compliance
Bank Project	1.0	Implementation	100 %	Core Banking	Application	Production		
Bank Project	1.0	Implementation	100 %	ATM Backend Gateway	SOAP Service	Initial	Yes	
CRM Project	1.0	Implementation	20 %	Payment Methods	Business Process	Production		
CRM Project	1.0	Implementation	20 %	AmazonEC2	SOAP Service	Initial	No	
OpenStack Neutron	1.0	Implementation		Networks	REST Service	Production	Yes	
OpenStack Neutron	1.0	Implementation		HP CSA	Application	Production		

You can modify the artifact data as per the requirement. Column headers contain text fields or list boxes that allows you to perform additional filtering. Right click the column header to display the column's context menu. You can choose the sort order or make column visible or invisible. The columns can be re-sized by moving the line between them. You can also reorder the columns by dragging them.

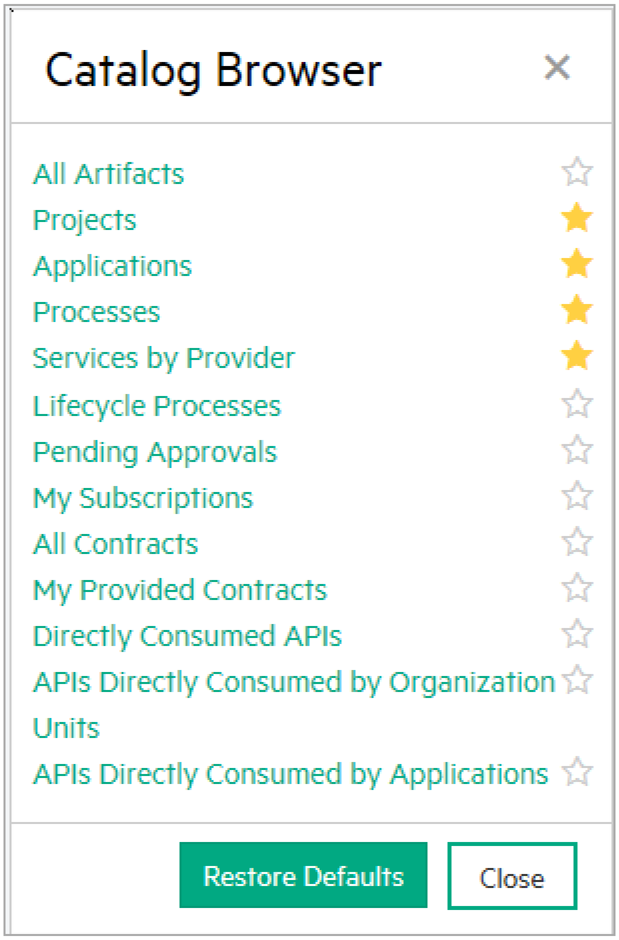
Viewing Artifact Reports

To view artifact reports, follow these steps:

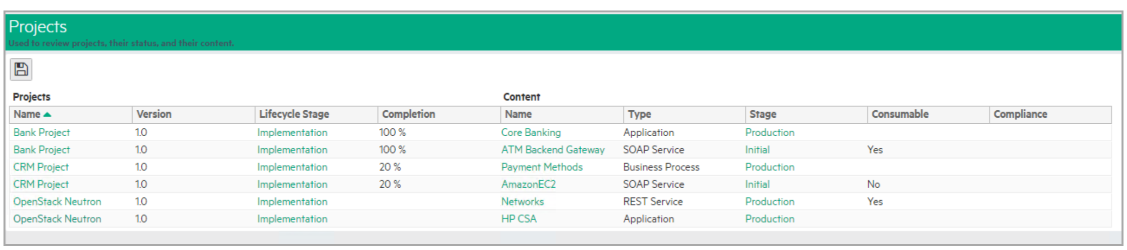
1. Log in to HPE Systinet and click on the **Reports** tab.
2. Select the **All Reports > Artifact Reports**, which shows any favorite reports as well as a **Show More** link.



3. Click **Show More** to open the catalog browser. The catalog browser lists all reports and also allows you to pin or unpin a particular report as a favorite onto the Artifact Reports menu.



4. Click **Projects** to view the artifact report called Projects, which is used to review projects and their status and content data. The Projects report is a table with columns that were defined by associated DQL queries as shown in Artifacts Reports.



Projects

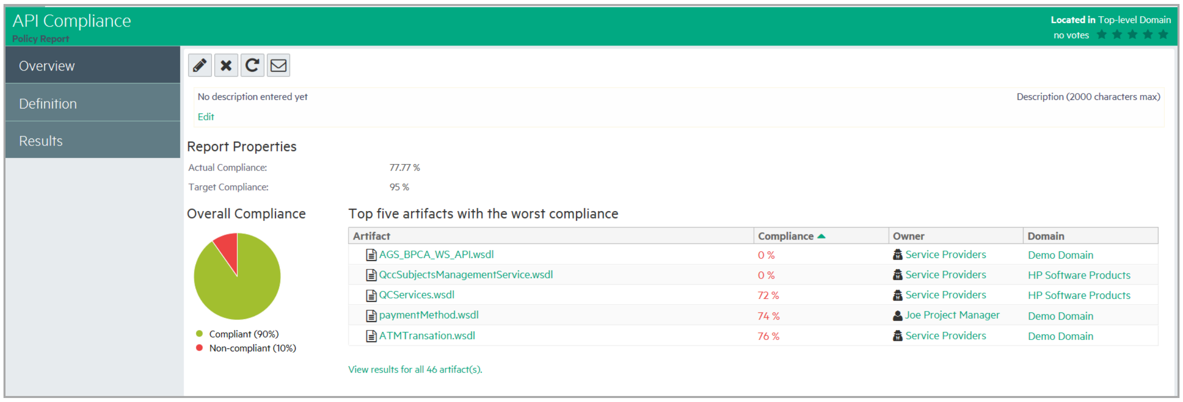
Used to review projects, their status, and their content.

Projects				Content				
Name ▲	Version	Lifecycle Stage	Completion	Name	Type	Stage	Consumable	Compliance
Bank Project	1.0	Implementation	100 %	Core Banking	Application	Production		
Bank Project	1.0	Implementation	100 %	ATM Backend Gateway	SOAP Service	Initial	Yes	
CRM Project	1.0	Implementation	20 %	Payment Methods	Business Process	Production		
CRM Project	1.0	Implementation	20 %	AmazonEC2	SOAP Service	Initial	No	
OpenStack Neutron	1.0	Implementation		Networks	REST Service	Production	Yes	
OpenStack Neutron	1.0	Implementation		HP CSA	Application	Production		

You can modify the artifact data as per the requirement. Column headers contain text fields or list boxes that allows you to perform additional filtering. Right click the column header to display the column's context menu. You can choose the sort order or make column visible or invisible. The columns can be re-sized by moving the line between them. You can also reorder the columns by dragging them.

Policy Reports

HPE Systinet policy reports are used to report the levels of policy compliance of the artifacts in HPE Systinet repository. The report is designed and used directly in the HPE Systinet web UI. You can select the policies to validate as well as set the filter that specifies what artifacts and data to include in the validation directly in the web UI when you define the report. The report's results are cached in the HPE Systinet repository. You can view the reports from the most recent calculation of the report.

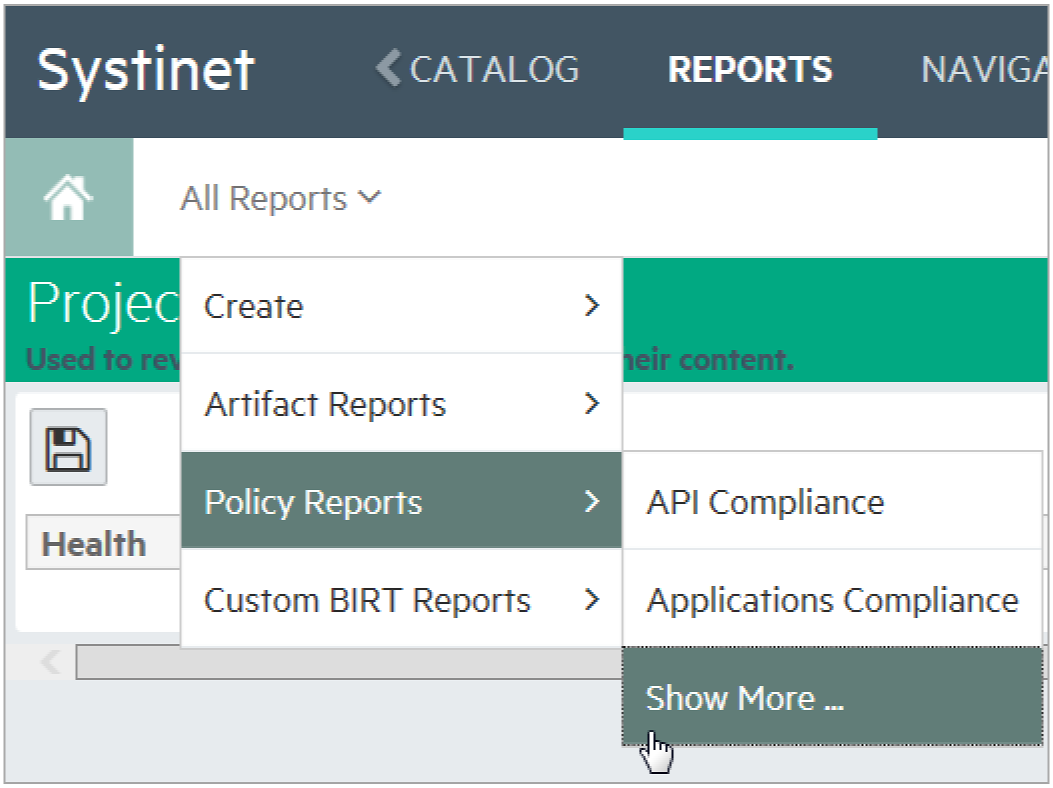


Viewing Policy Reports

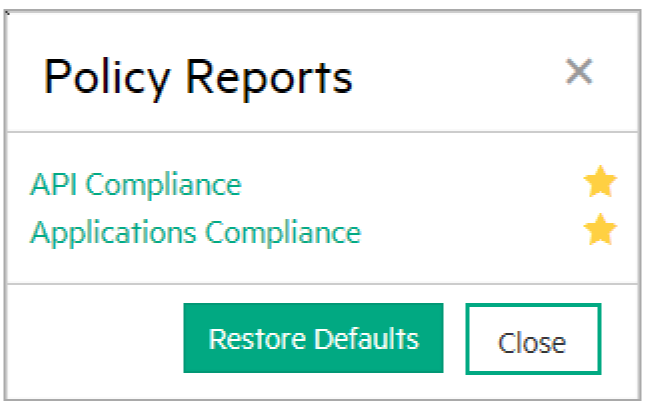
To view policy reports, follow these steps:

1. Log in to HPE Systinet and click on the **Reports** tab.

2. Select the **All Reports > Policy Reports**, which shows any favorite reports as well as a **Show More** link.



3. Click **Show More** to open the catalog browser. The catalog browser lists all reports and also allows you to pin or unpin a particular report as a favorite onto the Policy Reports menu.



4. Select **API Compliance** to view the policy report called API Compliance.

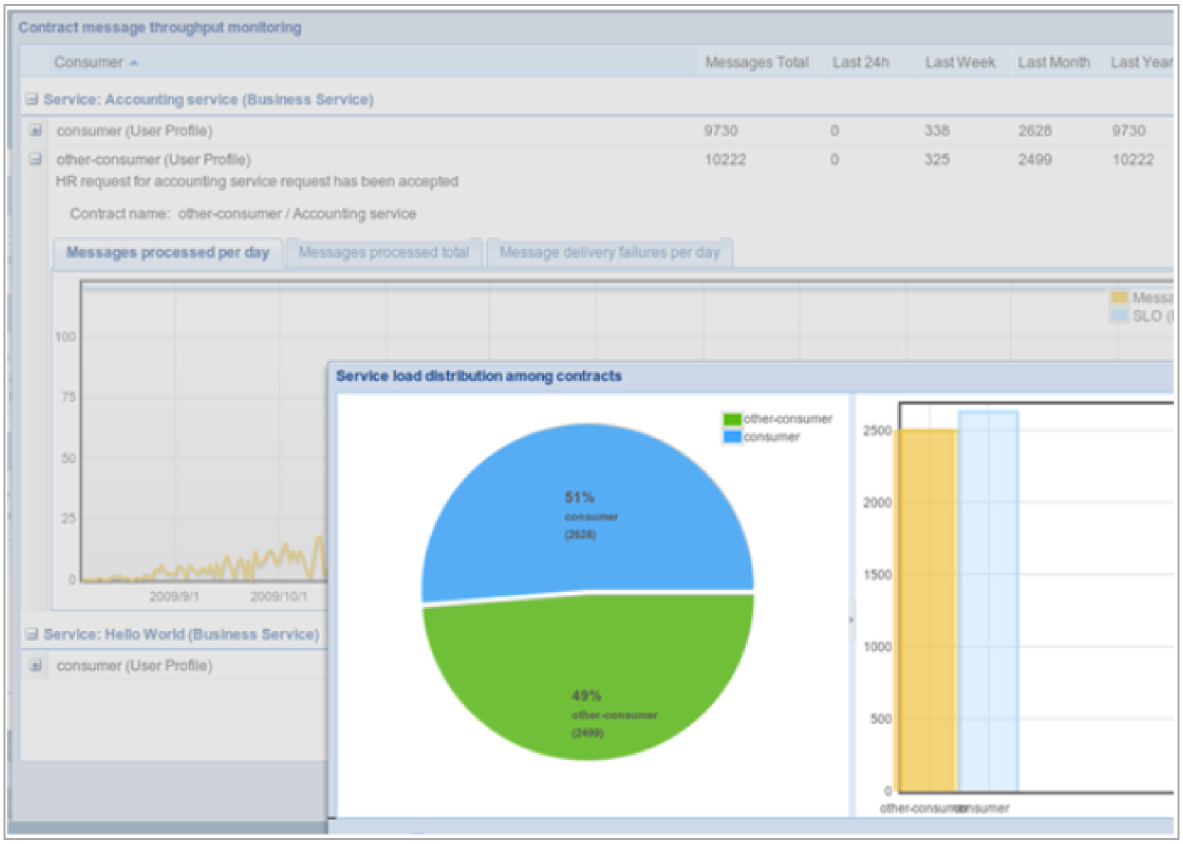
Contract SLO Monitoring

You can monitor individual contract performance even when multiple contracts share the same proxy object. Go to **Reports > All Reports > Contract Deployment > Contract SLO Monitoring**, to see the report of contract performance.

A graphic view of the message per day metric evolved in time is displayed. The data is gathered from devices in predefined intervals and data older than a day are compacted so there is just one record for a day/contract within Systinet database.

You have to configure the adapters in advance to support this feature. For more information, refer the documentation of the adapter you are using.

Click **Analyze** in the header of a service Provider to compare service capacity consumed by different contract of the service.



Custom BIRT Reports

Custom Reports are based on report definitions as stored in the Reporting Server. These reports can combine multiple data sources. For example, it is possible to mix data from the repository with data from an external database.

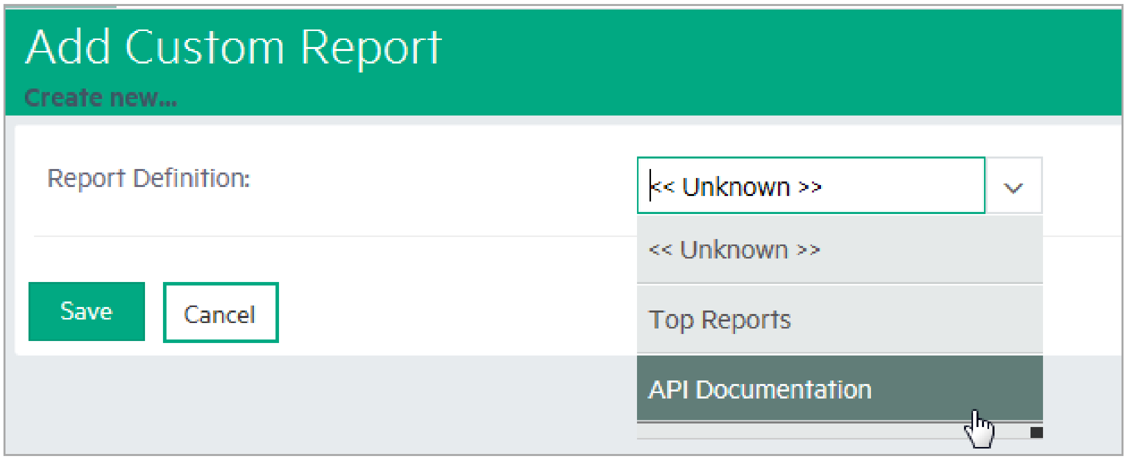
While Custom Report definitions are stored in the Reporting Server and are managed with the Report Editor, artifact reports are customizable directly from the web UI in a user-friendly way.

Custom Reports are constructed in Report Editor and are available in the Reports tab under Custom BIRT Reports in the left-hand menu. The following are the types of custom reports:

1. Top Reports
2. API Documentation

To create a custom report, follow these steps:

1. Go to **Reports > ALL Reports> Create > Custom Report**. The **Add Custom Report** window is displayed.



2. Select the **Report Definition** as **Top Reports** or **API Documentation**.
3. Enter **Name** and **Description** for your report.

   By default, the **Add to menu** option is selected.
4. Enter the value for **Max Rows**.

   > **Note:** This option is displayed only if you have selected **Top Reports** in **Report Definition**.
5. Enter the values for **API UUID** and **Operations Label**.

   > **Note:** This option is displayed only if you have selected **API Documentation** in **Report Definition**.
6. Click **Save** to create your custom report.

Viewing Custom Reports

To view custom BIRT reports, follow these steps:

1. Log in to HPE Systinet and select the Reports tab.
2. Select the **All Reports** > **Custom BIRT Reports**, which shows any favorite reports as well as a **Show More** link.
3. Click **Show More** to open the catalog browser. The catalog browser lists all reports and also

allows you to pin or unpin a particular report as a favorite onto the menu.

4. Select the required custom report to view it.

Chapter 5: Subscription Management

HPE Systinet provides a key service relationship is the provider-consumer relationship that you can create between service consumers and providers.

HPE Systinet captures the provider-consumer relationships for the following reasons:

- **Change Management** - By requiring consumers of services to register, the provider ensures that all users of that service are notified whenever some aspect of it changes.
- **Contract Access Control** - A controlled way of providing consumers access to a service, helping prevent unanticipated or inappropriate usage.
- **Contract Monitoring** - Monitors how successful a particular service is, based on its level of reuse and its use across organizational units.
- **Contract Auditing** - Providers need to know who is using specific services and who granted them access. This could be for many reasons, such as security, accounting, capacity planning, or change management.

The following definitions help you manage the subscriptions:

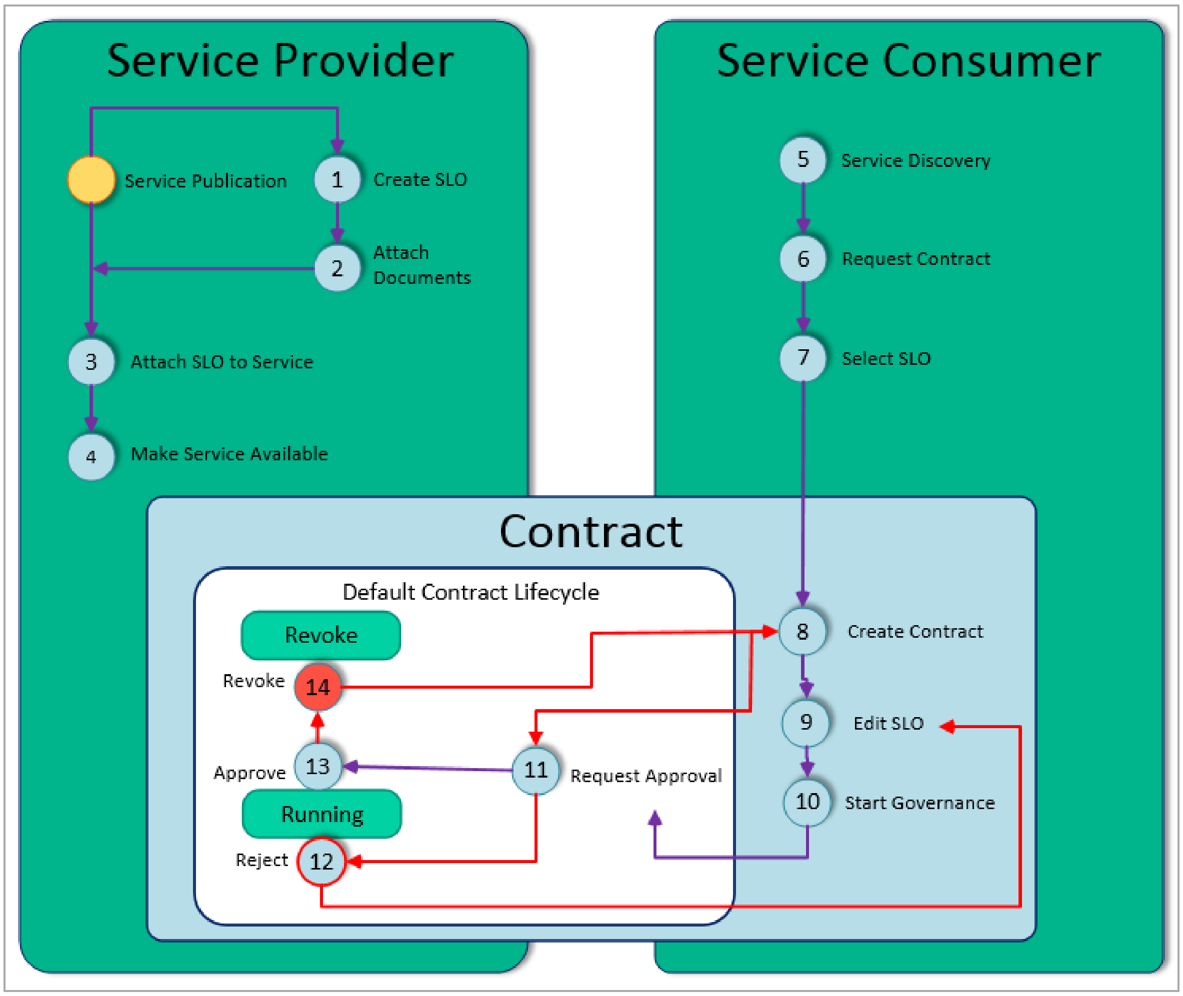
- **Consumer** - The consumer is the person or organizational unit that uses a service.
- **Provider** - The provider is the user or organizational unit responsible for contracts associated with the artifact that the consumer wants to use.
- **Contract Request** - When a consumer finds an artifact that they want to use, they create a contract request which is submitted to the provider.
- **Contract** - When a request is approved, a contract is formed between the consumer and provider artifacts.
- **Service Level Objectives (SLO)** - Each provider artifact can be associated with a set of offerings that the provider sets out as performance levels for the service. When a consumer makes a request they can select an SLO as part of the terms of the contract.

  The following are the two SLO artifact types:

  - **Service Level Offering artifact** - this artifact is created by provider and added in the provider artifact.
  - **Service Level Objectives artifact** - this artifact is a copy of Service Level Offering artifact that will be created when a consumer creates a contract and adds an SLO artifact for contract.

Subscription Management Workflow

For a provided service to be consumed, there are typically, several steps required by the provider and a discovery process for the consumer. Having found a service that meets their requirements the consumer and provider can establish a contract. The “Workflow” diagram displays the typical tasks that should be performed:



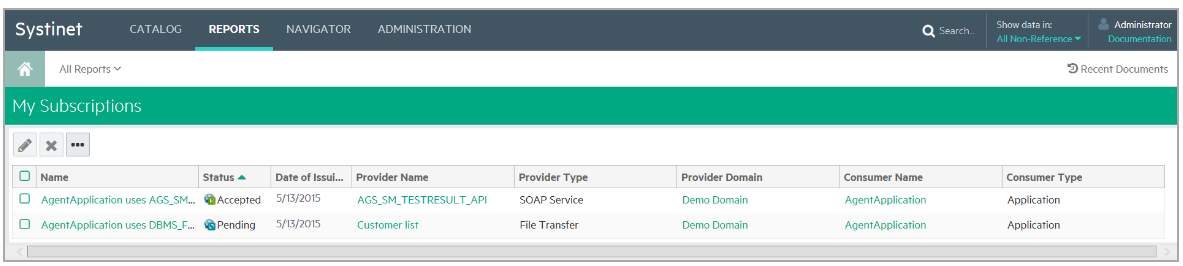
An overview of each step is given below:

1. After you create a service, you can offer a number of service-level objectives describing the terms of use for the service. You can create an SLO independently, or as part of a service.
2. You can also attach documentation to the SLO.
3. You can attach the SLO to the Service.
4. Make the Service available by marking it as consumable.

5. The consumer browses Systinet to see which services are available and whether they meet their requirements.
6. After the consumer finds the service, they can request it.
7. When a consumer requests consumption of a service, you must either approve or reject the request.

Subscription Reports

You can access details of subscription from the homepage. You can request for subscription contract, view provider wise contracts of APIs, and view consumer wise contracts details of APIs. You can also view your subscriptions from **Reports > All Reports > Artifacts Reports > Show More** and click **My Subscriptions**. The My Subscription report provides you the status of the contract, the date of issuing the contract, the name of the provider and the consumer, domain details, and type of consumer.



You can perform the following in Subscription Management:

- How to Set the Provider
- How to Create Contract
- How to Process Contract Requests

Systinet provides a default set of artifact types that can be consumer or provider artifacts. The administrator can customize these settings. For details, see *HPE Systinet Administration Guide*.

Default Provider / Consumer Artifact Types

The following table lists the artifact types defined as providers and consumers:

Provider Artifact Types	Consumer Artifact Types
Application Interfaces	Application Components

Provider Artifact Types	Consumer Artifact Types
• REST Services • XML Services • SOAP Services • File Transfers	• Applications • Components
Endpoints • HTTP Endpoints • SOAP Endpoints • File Endpoints	Contracts • Contracts • Organizational Units
Operations • HTTP Requests • HTTP Responses • SOAP Operations	-

How to Set Provider

Each consumable artifact should have a user or organizational unit, known as the provider, responsible for managing the contracts associated with the artifact.

> **Note:** If no specific provider is set for an artifact, the artifact owner is set as the default provider.

To set the provider to an artifact, follow these steps:

1. For the artifact you want to set the provider, open the **Overview** tab in the Artifact View page.
2. Locate the **Provided by Application/Organization** property.

   You can set the provider to an Application, a Component or an Organization Unit. You add a new provider or link to the existing one.
3. If you click **Link New**, follow the steps below. Else if you click **Link existing**, go to Step 4.
   a. Select **Application** or **Component** or **Organization Unit**. The respective create new page is displayed.
   b. Enter the details, such as, Name, Description and so on. Attach documents, if any.
   c. Click **Save** to set the provider to the new application or component or organization unit.
4. If you click **Link existing**, follow these steps:

a. Select **Application** or **Component** or **Organization Unit**. The respective select dialog box is displayed.

b. In the dialog box, select the Application or Component or Organization Unit from the list.

c. Click **Link Selected** to set to an existing provider.

How to Create Contract

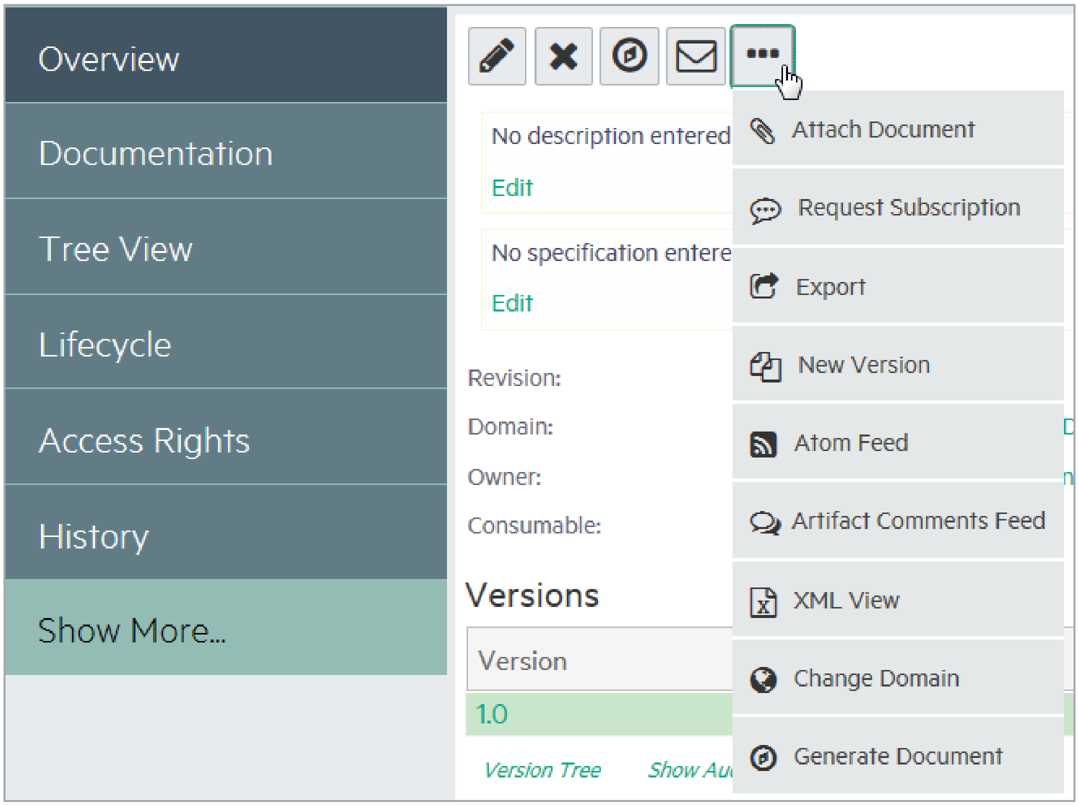
A contract when created has a dedicated lifecycle and when saved will be in a *Pending* status. This contract needs to be certified by approving a lifecycle stage of the contract by marking its status as *Accepted*. The consumer and the provider need to settle the terms of usage of this contracted artifact. Hence you can attach additional documents, apply policies and provide services with the contract.

> **Note:** Before you create contract, ensure that the artifact is consumable. If not, edit the artifact and select the Consumable check box to make the artifact consumable.

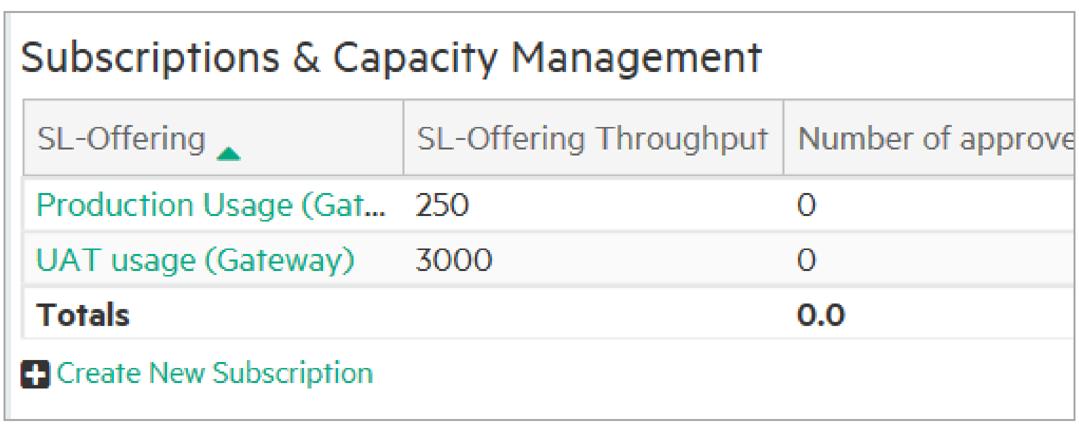
To create a contract, follow these steps:

1. Perform one of the following:

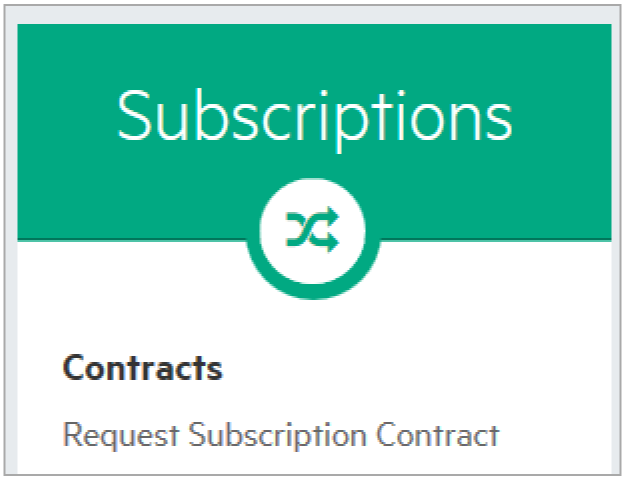
    a. In the **Overview** tab of the artifact, click **Request Subscription** context action.



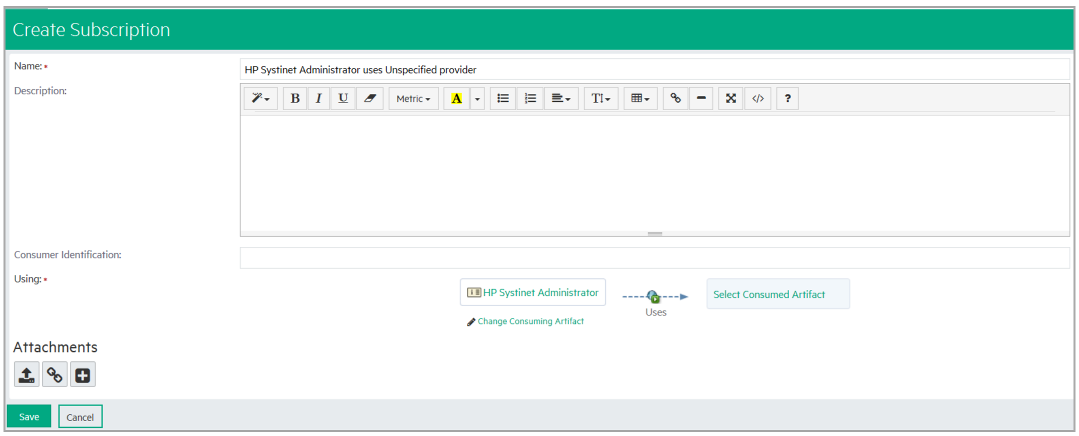
    b. In the **Overview** tab, **Subscription & Capacity Management** of the artifact, click **Create New Subscription** link.



    c. In the homepage, click **Request Subscription Contract** in **Subscriptions**.



The **Create Subscription** window is displayed.



2. Enter **Name**, **Description** (*optional*), and **Consumer Identification** (*optional*).
3. Click **Change Consuming Artifact** to change the consuming artifact. The **Select Consuming Artifact** window is displayed. Select the artifact from the list and click **Select**. By default the user logged in to Systinet will be the consuming artifact.

   You can also click **Select sub-artifact** to select a sub artifact for the consuming artifact.
4. Click **Select Consumed Artifact** to select the consumed artifact. The **Select Contract Provider** window is displayed. Select the provider from the list and click **Select**.

   You can also click **Select sub-artifact** to select a sub artifact for the consumed artifact.
5. Optionally, you can upload a local file, web resource, and link an existing artifact.
6. Click **Save**. The newly created contracted will be available in the **All Contracts** list with *Pending* status. Click **Browse & Search** from homepage or navigate to **Reports > Artifact Reports > All Contracts** to access the **All Contract** list.

HPE Systinet notifies the provider of your request and adds it to your Pending Requests list.

The provider of the service either approves or rejects your request. The result of their decision is sent as a notification email and updates in the **Lifecycle** tab. The status of the contract is changed from *Pending* to *Approved*. See How to Process Contract Request.

How to Process Contract Request

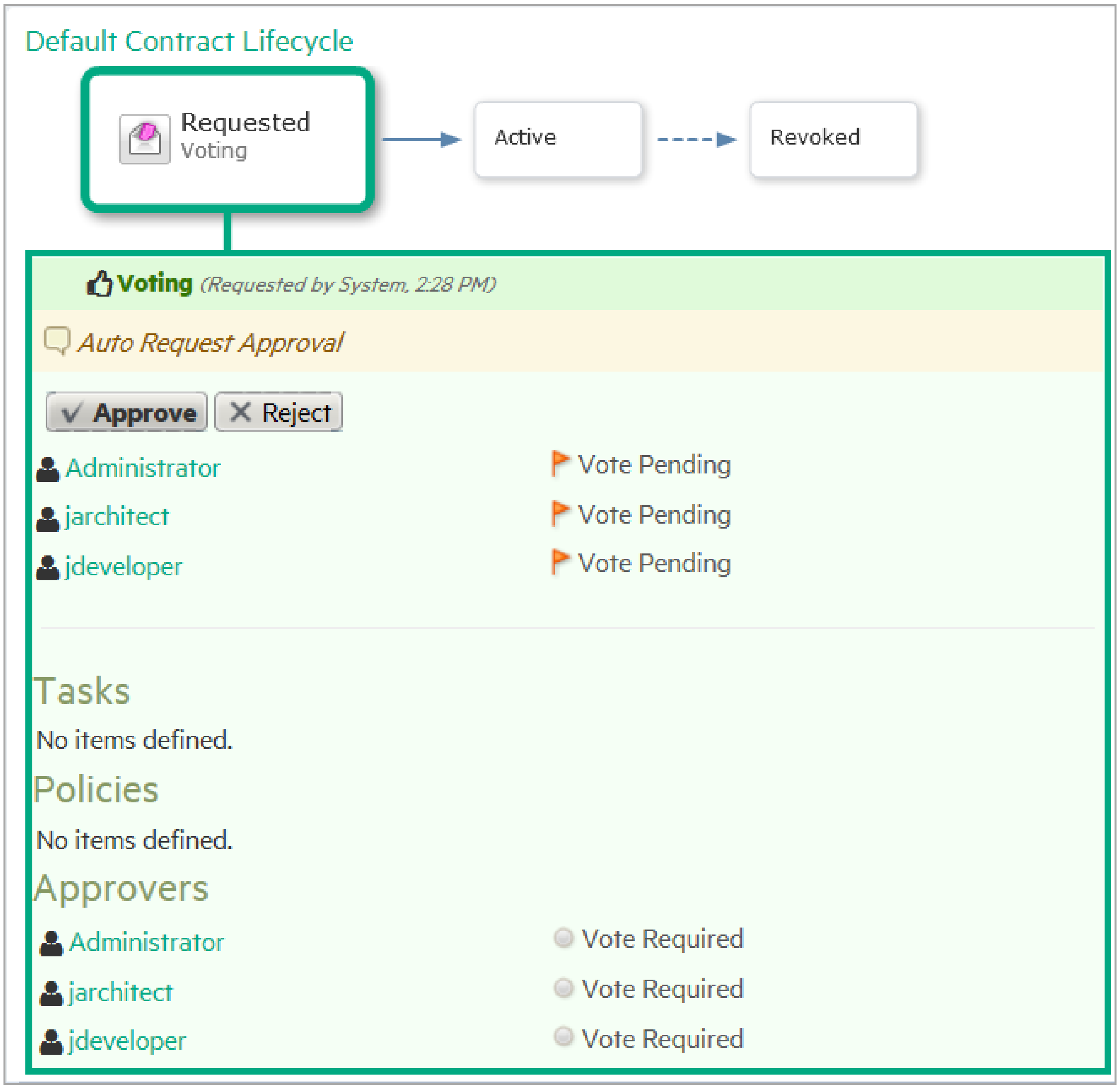
The contract approver can access the pending request list from **My Tasks** or **Events** tab.

To process the contract request, follow these steps:

1. Click on the contract which you want to approve.

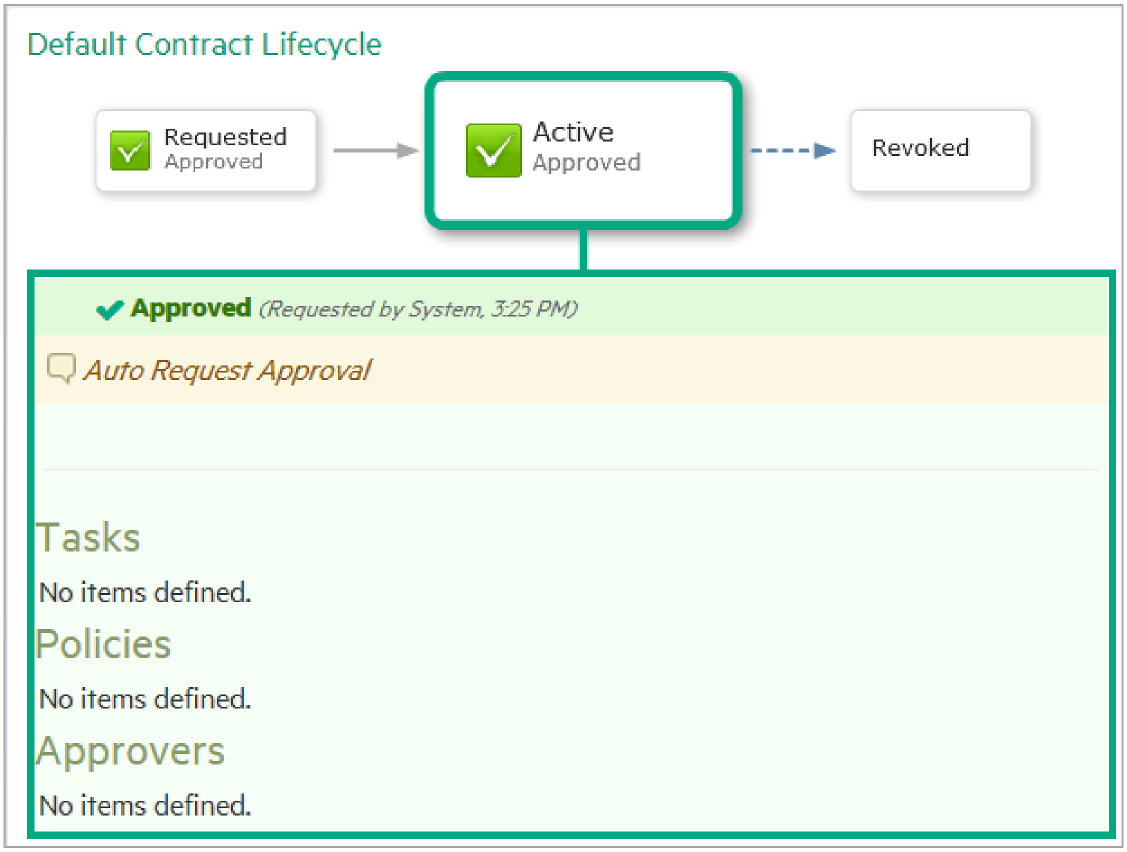
   In the **Overview** tab of the artifact to be approved, the **Contract State** will be *Pending* and **Stage** will be *Requested*.

2. Click **Lifecycle** tab. The lifecycle tab displays the list of approvers, tasks and policies associated with the artifact, and the status of the vote of each approver.



3. Click **Approve** to process the contract. The **Approve Requested Stage** dialog box is displayed. Enter your comments, if any, and click **Approve**.

   In the Default Contract Lifecycle, the status is changed to Approved as shown in the below image:



In the **Overview** tab of the artifact, the **Contract State** will be *Accepted* and **Stage** will be *Active (Approved)*.

Chapter 6: Authoring Overview

Authoring is the process of adding content to the Catalog for the purposes of governance and management.

Authoring consists of the following overlapping areas of functionality:

- Manually creating artifacts to represent entities that you want to develop, govern, and publish.
- Manually enhancing these artifacts with additional properties that represent important information about these entities.
- Manually organizing the content by creating relationships between artifacts.
- Publishing data artifacts with attached content. The publishing process may automate some of the manual authoring steps.

Authoring is described in the following topics:

- Application Modeling
- Environment
- Publishing
- Service Provisioning

For references on create and edit artifact pages, "Reference to Authoring UI" on page 81.

Application Modeling

Different organizations model their application infrastructure in different ways. The open architectural model of Systinet enables you to choose how you create, govern, and provide your application infrastructure in a way that matches your needs.

There are a number of different definitions for service artifacts that recognize the various ways that different organizations describe their service infrastructure. Systinet provides the following artifact types with suggestions of how you may want to use them:

Service

A service is a set of functionality that you can provide or use as a single entity. The purpose of the service artifact is to provide an abstraction in Systinet that you can use as a central point of governance, provision, and use that describes the functionality and the users, groups, and contacts responsible for its maintenance and support.

Service Artifacts

Artifacts in Systinet represent an abstraction of your services enabling you to visualize and manage your service development, governance, and provision.

The service artifact is usually the central element of a set of artifacts representing a particular set of functionality that you provide or use.

In practice, a service cannot be represented by a single artifact and consists of a set of the following related artifacts:

- **Service** - The key artifact representing the concept of the service. This artifact contains properties identifying the owners, contacts, and details about the set of functionality that it represents. Other details are represented in related artifacts.
- **Implementation** - Services typically have at least one implementation. Each implementation represents functional elements of the service. There are a number of different kinds of implementation and they relate to sets of technical artifacts representing the operations the implementation performs, the endpoints representing the servers or environments where the implementation is available, and definition documents such as WSDLs and XSDs that describe the service and its implementation. Systinet supports the following implementation artifact types:
  - **Application Interfaces** - SOAP Service, XML Service, REST Service, and File Transfer
  - **Process Implementations** - BPEL Process and XPDL Process

  Implementations are typically associated with the following artifact types:
  - **Endpoints** - Endpoints represent URLs used to access a service or process implementation. Throughout the lifecycle of a service or process, there are likely to be a number of different environments hosting the service or process, for example, development, testing, and production servers. Use a different endpoint to represent each of these environment implementations.
  - **Operations** - Operations represent a method defined in an implementation.
  - **WSDLs, XML Schemas, BPELs, and XPDLs** - Services, processes and their implementations are often described by definition documents such as WSDLs or BPELs. Systinet provides publishing functionality which decomposes definition documents, analyzes

the service infrastructure it defines, and then creates or updates the relevant artifacts in the Catalog.

- **Documentation** - Services are often described by different documents such as specifications and user guides.
- **Service Level Objectives** - Providers of services can offer sets of terms to service consumers describing the service levels that they expect to meet. When a consumer requests the use of a service, the service level objective defines the terms of the contract between the provider and the consumer.

Business Process

Systinet represents an abstraction of your processes enabling you to visualize and manage your process deployment and governance.

The Business Process Artifact is usually the central point of a process infrastructure representing a particular set of functionality that you provide or use.

In practice, a business process cannot be represented by a single artifact and consists of a set of the following related artifacts:

- **Business Process** - The key artifact representing the concept of the process. This artifact contains properties identifying the owners, contacts, and details about the set of functionality that it represents.
- **Process Implementation** - The entity representing the process implementation. A Business Process typically has one BPEL Process Implementation, which refers to related (consumed and provided) services and their implementations using an aggregation of WSDL documents. BPEL Process implementation is typically accessible and controlled by one service implementation, so a process implementation is also visible as a service implementation, and can be reused by another service or process.
- **Documentation** - Processes are often described by different documents such as specifications and user guides.

Application

An application typically provides a set of services and processes. The application artifact enables you to collect a set of services and processes together to govern and provide them as a single entity. Use the generic add relationship functionality to add artifacts to an application.

Project

A project typically contains a set of artifacts with a shared development lifecycle. The project artifact enables you to collect these artifacts together and govern them as a single entity. Use the generic add relationship functionality to add content to a project or use specific project functionality.

Using these artifact types and the relationships between them provides a platform to manage, govern, and provide your content at the most appropriate level for your organization.

Provision and Use

For the purpose of forming contracts, the model contains an Service Level Objectives artifact type to represent the terms that you offer for a piece of functionality. The default functionality of Systinet enables an SLO to be associated with Applications, Services, Implementations, Endpoints, and Operations.

Lifecycle Governance

For the purpose of governing a lifecycle, Systinet provides default lifecycle processes for Applications, Services, Implementations, Projects, Processes, and Process Implementations.

Versioning

During their lifetime services and processes evolve, so there may be different versions that require management. Systinet supports various versioning strategies enabling you to introduce new versions in a controlled way, which you can then manage, govern, and provide separately.

Environment

Most organizations use several environments to clearly separate production from testing and development. This means that when a service moves through its lifecycle, it is likely to be deployed multiple times in a number of different environments. Systinet makes use of an Environment categorization to represent these environments. Each environment is represented by an environment category value which can be applied to endpoints and also to server artifacts. The following environment categories are defined in Systinet:

- **Development** - A service is likely to be defined by publishing a WSDL before it reaches the development stage. When it reaches the development stage it requires an endpoint representing a development server. Instead of amending and republishing the WSDL, Systinet enables you to add an endpoint and categorize it as Development.
- **Testing** - During the testing stage, the service may require an additional endpoint representing test deployment of the service and this is also achieved by adding a new endpoint categorized as Testing.
- **Staging** - A staging environment is intended to duplicate the production environment as closely as possible. Staging environments are often used for final pre-production testing, or for demonstration and training purposes. A service in a staging environment requires an additional endpoint representing the staging deployment categorized as Staging.
- **Production** - The service requires an additional endpoint representing the production deployment of the service and this is also achieved by adding a new endpoint categorized as Production.

Publishing

Files can be uploaded to Systinet with the Import File wizard accessible from the **Import** menu in the **Catalog** tab, or as **Upload** actions in Artifact view page.

Systinet does not change uploaded files, they are stored and available as they were uploaded. You can upload local files or remote files exposed at a URL. Moreover, you can upload a ZIP archive containing multiple files. As well as the file to upload, you can select the server folder and set additional options.

Import File functionality offers the following options:

- **Server Folder**

  The server folder determines the path in the repository workspace where Systinet stores uploaded files.

  The correct use of server folders is crucial for definition data management. As mentioned above, definition data files usually refer to each other via relative links and hence it is important to set server folders so that relative links work.

- **Authentication**

This option applies when you upload remote documents and the remote server requires credentials. Import provides the option to input credentials and to store them for future use.

- **Synchronization**

  This option applies when you upload remote documents. Systinet provides the option to synchronize the content of the repository with remote files. This feature is important when Systinet is not the master store for definition files. The administrator can schedule a synchronization task that synchronizes all documents in Systinet with remote master files. The administrator can schedule an automatic synchronization , or a manual synchronization or disable the synchronization.

- **Process Archive Content**

  This option applies when you upload a ZIP archive. If selected (default), Systinet extracts the archive and uploads all the content. Otherwise, Systinet uploads the archive as documentation content attached to a documentation artifact. ZIP, JAR, WAR, EAR, and BPR archives are supported by default, but you can extend the predefined set of supported archives.

- **BPEL Decomposition**

  This option applies when you upload BPEL or SCA documents. It is similar to WSDL decomposition. You can select whether to create only data content artifacts, such as SCA or BPEL artifacts (None option) or whether to create a Business Process for each BPEL artifact.

- **WSDL Decomposition**

  This option applies when you upload a WSDL. You can select None, Implementation or Service to enable the publishing process to create the artifacts defined by the WSDL.

- **Service Type**

  This option applies if you upload a WSDL document and create services when WSDL decomposition is set to Services. You can specify the service type (infrastructure, business, or application service) for the created service.

For details on how to publish content, see "Publish Content" on page 43.

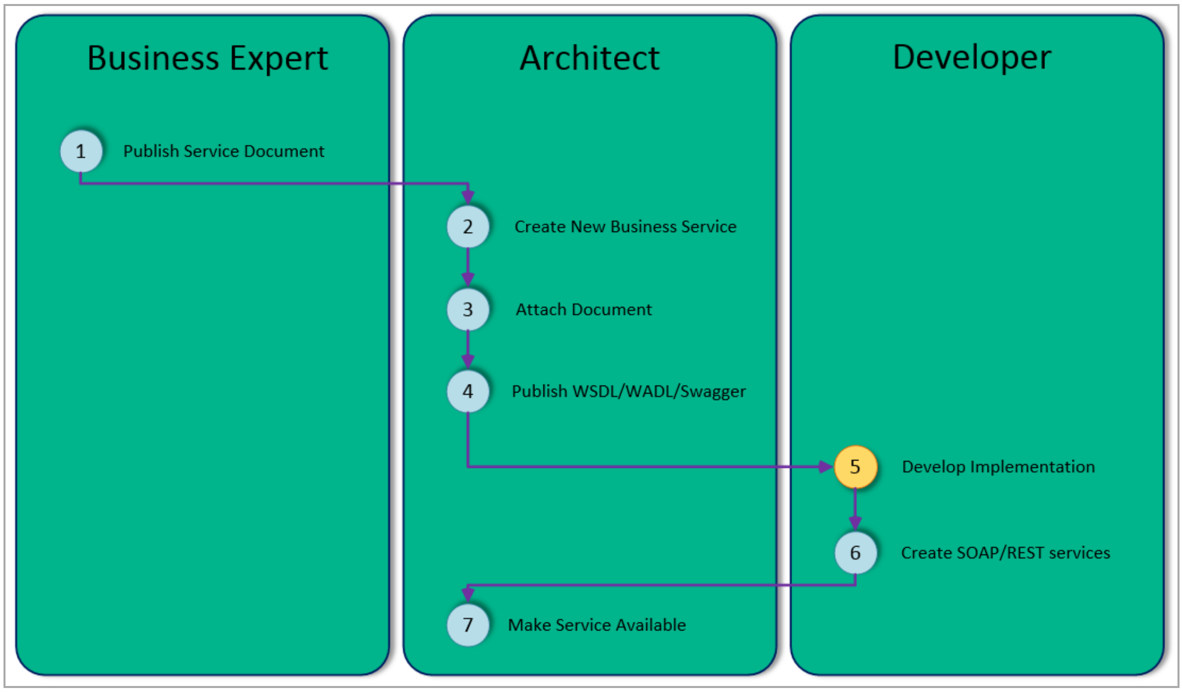
Service Provisioning

Systinet uses a set of authoring processes, enabling you to add services to the Catalog and make them available to consumers.

> **Note:** This workflow considers the steps required for Service Provision separately from Lifecycle

> Management. In practice, these steps are associated with particular lifecycle stages with relevant verification and approval processes.

The diagram describes a typical service provision process and the steps required to achieve it. The workflow is split into the user roles that would typically perform the actions in an organization.



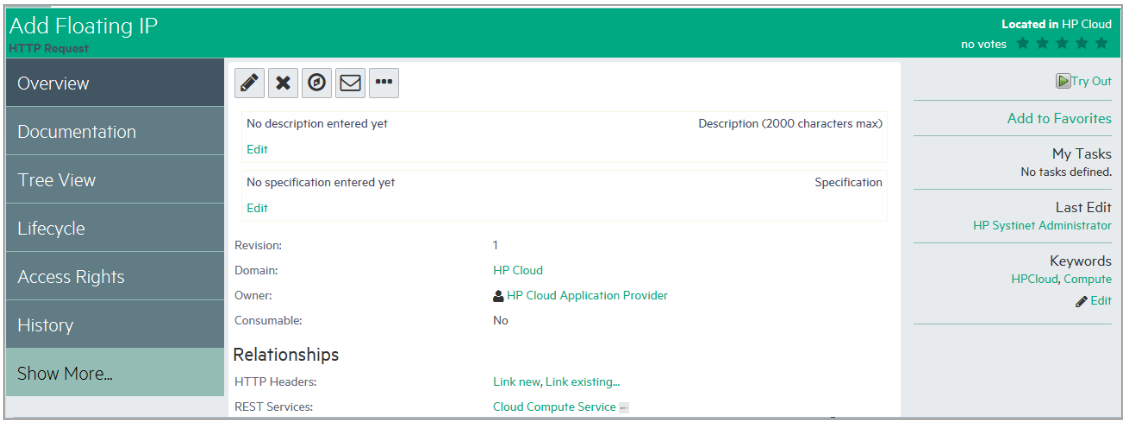
Try Out with DHC

Systinet enables you to use Try Out HTTP Request with the DHC Restlet in Chrome browser.

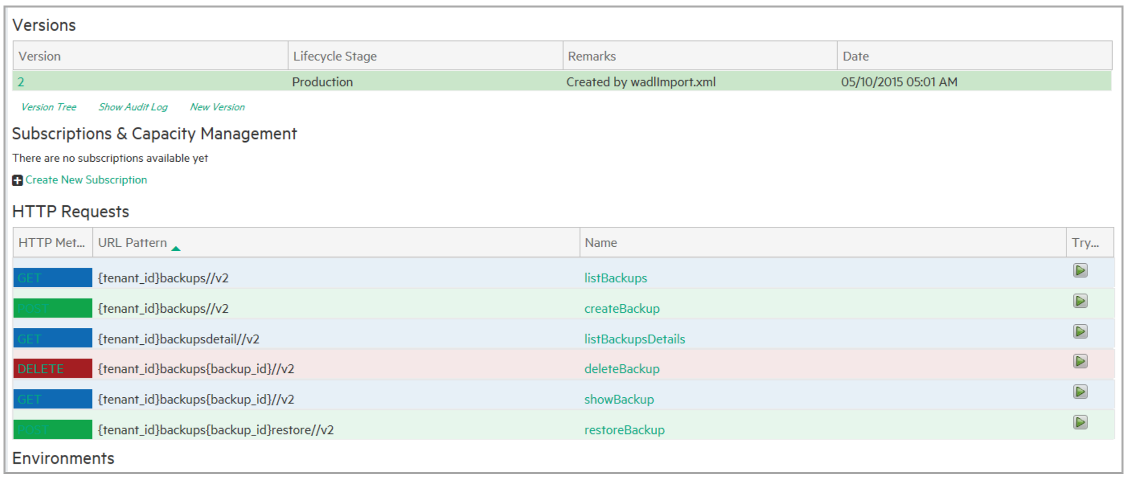
DHC (Dev HTTP Client) Restlet is a full featured tool for manual HTTP/REST API testing and discovery. It is designed and developed to discover, manipulate, and test HTTP REST services.

To use Try Out from HTTP Request page, follow these steps:

1. Go to https://chrome.google.com/webstore/category/apps from Google Chrome browser. Install and enable the DHC Restlet application.
2. Click **Try Out** context option from HTTP Request details page.



3. You can also use the Try Out option from HTTP Requests table from REST service artifact.



Reference to Authoring UI

This chapter provides a reference to artifact creation and edit pages that are accessible from the Catalog Browser.

- Services:
  - SOAP Services page
  - XML Services page
  - REST Services page
  - File Transfer Services page
- Operations:

- SOAP Operations page
- HTTP Request page
- HTTP Response page
- Endpoints:
  - SOAP Endpoints page
  - File Endpoints page
  - HTTP Endpoints page
- Contacts:
  - Organizational Unit page
  - Users and Contact page
- Business Process page
- Projects page
- Process Implementation
  - BPEL Processes page
  - XPDL Processes page
- SLO
  - Service Lever Offering/Objective page

SOAP Services Page

The following are the parameters of the create and edit SOAP services pages:

Parameter	Description
Name	The name of the new SOAP service.
Description	A description including rich text and HTML support. This description is displayed in the properties area of Overview tab of Artifact view page. This description is limited by the display length available in the Overview tab.
Version	The version number of the artifact.
Version Remark	The remark for the version number.
Consumable	Select to make the SOAP service available to consumers.

Parameter	Description
Transport	Select the transport type from the drop-down list. Systinet supports CIFS, FTP, HTTP, HTTPS, JMS, MFT, MQ, SCP, SFTP, SMTP and WebDAV transport methods.
JMS provider	Set the JMS provider, if applicable.
Keywords	A set of custom tags to help users identify the artifact.
Categories	Apply a set of categorizations to help other users to identify the artifact.
Documentation	Attach documents to the artifact.

XML Services Page

The following are the parameters of the create and edit XML services pages:

Parameters	Description
Name	The name of the new XML service.
Description	A description including rich text and HTML support. This description is displayed in the properties area of Overview tab of Artifact view page. This description is limited by the display length available in the Overview tab.
Version	The version number of the artifact.
Version Remark	The remark for the version number.
Consumable	Select to make the XML service available to consumers.
Transport	Select the transport type from the drop-down list. Systinet supports CIFS, FTP, HTTP, HTTPS, JMS, MFT, MQ, SCP, SFTP, SMTP and WebDAV transport methods.
Keywords	A set of custom tags to help users identify the artifact.
Categories	Apply a set of categorizations to help other users to identify the artifact.
Documentation	Attach documents to the artifact.

REST Services Page

The following are the parameters of the create and edit REST services pages:

Parameters	Description
Name	The name of the new REST service.
Description	A description including rich text and HTML support. This description is displayed in the properties area of Overview tab of Artifact view page. This description is limited by the display length available in the Overview tab.
Version	The version number of the artifact.
Version Remark	The remark for the version number.
Consumable	Select to make the REST service available to consumers.
Categories	Apply a set of categorizations to help other users to identify the artifact.
Documentation	Attach documents to the artifact.

FileTransfer Services Page

The following are the parameters of the create and edit File Transfer services pages:

Parameters	Description
Name	The name of the new File Transfer service.
Description	A description including rich text and HTML support. This description is displayed in the properties area of Overview tab of Artifact view page. This description is limited by the display length available in the Overview tab.
Version	The version number of the artifact.
Version Remark	The remark for the version number.
Consumable	Select to make the File Transfer service available to consumers.
Format	Format in which the file is transferred, for example: Binary, CSV, Text, XML.
Transport	Select the transport type from the drop-down list. Systinet supports CIFS, FTP, HTTP, HTTPS, JMS, MFT, MQ, SCP, SFTP, SMTP and WebDAV transport methods.
Confidentiality	Select the levels of confidentiality from the drop-down list.
Availability	Select the availability depending on the priority.
Integity	Select the integrity for the file.
Categories	Apply a set of categorizations to help other users to identify the artifact.

SOAP Operations Page

The following are the parameters of the create and edit SOAP operations pages:

Parameter	Description
Name	The name of the new SOAP operation.
Description	A description including rich text and HTML support. This description is displayed in the properties area of Overview tab of Artifact view page. This description is limited by the display length available in the Overview tab.
Version	The version number of the artifact.
Version Remark	The remark for the version number.
Consumable	Select to make the SOAP service available to consumers.
Stakeholder Emails	Email ID of the stake holders.
Operation name	Operation name defined by the associated WSDL.
Port type	Port type defined by the associated WSDL.
Target Namespace	Namespace defined by the associated WSDL.
Input types	XSD input types defined for the operation.
Output types	XSD output types defined for the operation.
Fault types	XSD fault types defined for the operation.
Categories	Apply a set of categorizations to help other users to identify the artifact.
Documentation	Attach documents to the artifact.

HTTP Request Page

The following are the parameters of the create and edit HTTP request pages:

Parameter	Description
Name	The name of the new HTTP request operation.
Description	A description including rich text and HTML support. This description is displayed in the properties area of Overview tab of Artifact view page. This description is limited

Parameter	Description
	by the display length available in the Overview tab.
Consumable	Select to make the HTTP request operation available to consumers.
Stakeholder Emails	Email ID of the stake holders.
HTTP Method	A set of common methods for HTTP request. Example: CONNECT, GET, PUT, DELETE and so on.
URL Pattern	URL pattern used for depending on the HTTP request. Example: For Create user, the URL pattern is /user.
Resource	Use the HTTP request resource to send the HTTP request.
Media Type	Indicates the type of data the artifact contains.
Categories	Apply a set of categorizations to help other users to identify the artifact.
Documentation	Attach documents to the artifact.

For information on HTTP Status Codes and HTTP Headers, see Apendix A and Appendix B, respectively.

HTTP Response Page

The following are the parameters of the create and edit HTTP response pages:

Parameter	Description
Name	The name of the new HTTP response operation.
Description	A description including rich text and HTML support. This description is displayed in the properties area of Overview tab of Artifact view page. This description is limited by the display length available in the Overview tab.
Stakeholder Emails	Email ID of the stake holders.
Media Type	Indicates the type of data the artifact contains.
HTTP Method	A set of common methods for HTTP response. Example: CONNECT, GET, PUT, DELETE and so on.
URL Pattern	URL pattern used for depending on the HTTP response. Example: For Create user, the URL pattern is /user.
Categories	Apply a set of categorizations to help other users to identify the artifact.

Parameter	Description
Documentation	Attach documents to the artifact.

For information on HTTP Status Codes and HTTP Headers, see Apendix A and Appendix B, respectively.

SOAP Endpoint Page

The following are the parameters of the create and edit SOAP endpoint pages:

Parameter	Description
Name	The name of the new SOAP endpoint.
Description	A description including rich text and HTML support. This description is displayed in the properties area of Overview tab of Artifact view page. This description is limited by the display length available in the Overview tab.
Version	The version number of the artifact.
Transport	Select the transport type from the drop-down list. Systinet supports CIFS, FTP, HTTP, HTTPS, JMS, MFT, MQ, SCP, SFTP, SMTP and WebDAV transport methods.
Consumable	Select to make the SOAP endpoint available to consumers.
Stakeholder Emails	Email ID of the stake holders.
Version Remark	The remark for the version number.
WSDL Port name	Port name defined by an associated WSDL.
Type	Select the endpoint type from the drop-down list.
Environment	Categorize the endpoint by selecting an environment from the drop-down list.
Endpoint URL	URL for the actual implementation of the service.
Categories	Apply a set of categorizations to help other users to identify the artifact.
Documentation	Attach documents to the artifact.

File Endpoint Page

The following are the parameters of the create and edit File endpoint pages:

Parameter	Description
Name	The name of the new File endpoint.
Description	A description including rich text and HTML support. This description is displayed in the properties area of Overview tab of Artifact view page. This description is limited by the display length available in the Overview tab.
Version	The version number of the artifact.
Consumable	Select to make the File endpoint available to consumers.
Stakeholder Emails	Email ID of the stake holders.
Version Remark	The remark for the version number.
Type	Select the endpoint type from the drop-down list.
Environment	Categorize the endpoint by selecting an environment from the drop-down list.
Endpoint URL	URL for the actual implementation of the service.
Categories	Apply a set of categorizations to help other users to identify the artifact.
Documentation	Attach documents to the artifact.

HTTP Endpoint Page

The following are the parameters of the create and edit HTTP endpoint pages:

Parameter	Description
Name	The name of the new HTTP endpoint.
Description	A description including rich text and HTML support. This description is displayed in the properties area of Overview tab of Artifact view page. This description is limited by the display length available in the Overview tab.
Version	The version number of the artifact.
Consumable	Select to make the HTTP endpoint available to consumers.
Stakeholder Emails	Email ID of the stake holders.

Parameter	Description
Version Remark	The remark for the version number.
Type	Select the endpoint type from the drop-down list.
Environment	Categorize the endpoint by selecting an environment from the drop-down list.
Endpoint URL	URL for the actual implementation of the service.
Categories	Apply a set of categorizations to help other users to identify the artifact.
Documentation	Attach documents to the artifact.

For information on HTTP Status Codes and HTTP Headers, see Apendix A and Appendix B, respectively.

Organization Unit Page

The following are the parameters of the create and edit Organization Unit pages:

Parameter	Description
Name	The name of the new organization unit.
Description	A description including rich text and HTML support. This description is displayed in the properties area of Overview tab of Artifact view page. This description is limited by the display length available in the Overview tab.
Contact Roles	The contact roles for the organization unit. The contact roles can be one of the following: Administrator, Architect, Business Expert, Developer, or Operations Manager.
Contact Classification	Select the contact classification for the organization unit from the drop down list. Contact can be classified as Contact or User.
Geographical Location	The geographical location for the organization unit.
Language Code	Select the language code for the organization unit from the drop down list.
Login Name	The login name associated with the organization unit.
Address	Add contact address for the organizational unit.
Email	Add e-mails for the organizational unit.
Phone	Add phone numbers for the organizational unit.

Parameter	Description
Instant Messenger	Add IM contacts for the organizational unit.
Categories	Apply a set of categorizations to help other users to identify the artifact.
Documentation	Attach documents to the artifact.

Users and Contact Page

The following are the parameters of the create and edit user and contact pages:

Parameter	Description
Name	The name of the new user and contact.
Description	A description including rich text and HTML support. This description is displayed in the properties area of Overview tab of Artifact view page. This description is limited by the display length available in the Overview tab.
Account State	Select the account state for the user or contact. The state can be classified as Active, Disabled or Retired.
Contact Roles	The contact roles for the user or contact. The contact roles can be one of the following: Administrator, Architect, Business Expert, Developer, or Operations Manager.
Contact Classification	Select the contact classification for the user or contact from the drop down list. Contact can be classified as Contact or User.
Geographical Location	The geographical location for the user or contact.
Language Code	Select the language code for the user or contact from the drop down list.
Login Name	The login name associated with the user or contact.
Address	Add contact address for the user or contact.
Email	Add e-mails for the user or contact.
Phone	Add phone numbers for the user or contact.
Instant Messenger	Add IM contacts for the user or contact.
Categories	Apply a set of categorizations to help other users to identify the artifact.
Documentation	Attach documents to the artifact.

Business Process Page

The following are the parameters of the create and edit Business Process pages:

Parameter	Description
Name	The name of the new business process.
Description	A description including rich text and HTML support. This description is displayed in the properties area of Overview tab of Artifact view page. This description is limited by the display length available in the Overview tab.
Version	The version number of the artifact.
Stakeholder Emails	Email ID of the stake holders.
Version Remark	The remark for the version number.
Categories	Apply a set of categorizations to help other users to identify the artifact.
Documentation	Attach documents to the artifact.

Projects Page

The following are the parameters of the create and edit Projects pages:

Parameter	Description
Name	The name of the new project.
Description	A description including rich text and HTML support. This description is displayed in the properties area of Overview tab of Artifact view page. This description is limited by the display length available in the Overview tab.
Version	The version number of the artifact.
Version Remark	The remark for the version number.
Completion [%]	The current progress of the project.
Start Date	Use the calendar icon to set a start date for the new project.
Planned End Date	Use the calendar icon to set a projected completion date for the new project.

Parameter	Description
Keywords	A set of custom tags to help users identify the artifact.
Provider	Select the user, group, or role responsible for provision of the artifact.
Categories	Apply a set of categorizations to help other users to identify the artifact.
Documentation	Attach documents to the artifact.

BPEL Processes Page

The following are the parameters of the create and edit BPEL Process pages:

Parameter	Description
Name	The name of the new BPEL process.
Description	A description including rich text and HTML support. This description is displayed in the properties area of Overview tab of Artifact view page. This description is limited by the display length available in the Overview tab.
Version	The version number of the artifact.
Stakeholder Emails	Email ID of the stake holders.
Version Remark	The remark for the version number.
Target Namespace	The target namespace.
Query Language	The name of the query language.
Expression Langauge	The expression for the language.
Supress Join Failure	Select or clear the check box for supress join failure option.
Exit on Standard Fault	Select or clear the check box for exit on standard fault option.
Partner Links	Add name and other values for the partner.
Categories	Apply a set of categorizations to help other users to identify the artifact.
Documentation	Attach documents to the artifact.

XPDL Processes Page

The following are the parameters of the create and edit XPDL process pages:

Parameter	Description
Name	The name of the new XPDL process.
Description	A description including rich text and HTML support. This description is displayed in the properties area of Overview tab of Artifact view page. This description is limited by the display length available in the Overview tab.
Version	The version number of the artifact.
Stakeholder Emails	Email ID of the stake holders.
Version Remark	The remark for the version number.
ID	The ID for the XPDL process.
XPDL Package Name	The name of the XPDL package.
XPDL Version	The version of the XPDL.
Vendor	Name of the vendor.
XPDL Created	The date on which the XPDL is created.
Modification Date	The date on which the XPDL is modified.
Location of XPDL Documentation	Mention the location of the XPDL documentation.
Priority Unit	The name of the priority unit.
Cost Unit	The name of the cost unit.
Categories	Apply a set of categorizations to help other users to identify the artifact.
Documentation	Attach documents to the artifact.

Service Level Offering/Objectives Page

The following are the parameters of the create and edit SLO pages:

Parameter	Description
Type	Select SLO, Service Level Offering, or Service Level Objectives from the list.

Parameter	Description
Name	The name of the new SLO.
Description	A description including rich text and HTML support. This description is displayed in the properties area of Overview tab of Artifact view page. This description is limited by the display length available in the Overview tab.
Version	The version number of the artifact.
Version Remark	The remark for the version number.
Proxy Layout	Select per-proxy or shared from the drop down list.
Frontend URL Template	The front end URL for the template.
Propagate Changes	Select or clear the propagate change option.
Reuse Proxies	Select or clear the reuse proxies option.
Frontend Protocol Filter	The front end protocol for the filter.
Policy processing order	Mention the policy processing order.
Allow use of functional endpoints	To use the functional endpoints, click **Add** and select category from Development, Production, Staging, or Testing, and click **OK**.
Business Impact	Select the business impact as high, low or medium from the drop down list.
Hours of Provider Operation	Select an option and then enter start and end times if required.
Hours of Service Operation	Select an option and then enter start and end times if required.
Expected Messages Per Day	Estimated messages per day.
Maximum Messages Per Day	Maximum messages per day.

Parameter	Description
Daily Peak Period	Select an option and then enter start and end times if required.
Peak	Expected messaging activity.
Service Availability	Expected time of service delivery.
Service Termination	Expected time of service termination.
Throughput	Measured number of messages per minute.
Response Time	Measured time for the service to respond.
Availability	Measured availability of the service during it operating hours.
Performance	Measured performance of the service.
Categories	Apply a set of categorizations to help other users to identify the artifact.
Documentation	Attach documents to the artifact.

Chapter 7: Versioning Overview

Services and their associated artifacts sometimes need to be changed or modified to reflect changes in business processes, service dependencies, or other business criteria. Services are composed of metadata, documents, and implementation artifacts. Maintaining proper relationships between all these changing components can be challenging, so Systinet includes extended support for the versioning of services and artifacts. This support includes features such as automatic version resolution during file uploading, and easy version creation based on selected versioning strategies.

Systinet uses both revisions and versions and these different concepts are described in the following topics.

Revisions

Revisions are used to track changes to individual artifacts and content in the catalog. Systinet stores a complete history of each artifact instance as a revision. Whenever an artifact changes Systinet automatically creates a new revision. There is no versioning schema associated with the tracking of revisions.

You normally work with the latest revisions of artifacts in the UI, but Systinet provides the Artifact View page History tab, enabling you to view and compare different artifact revisions and see the history of all changes.

Versions

While revisions are used to track the history of changes to services and their underlying artifacts, Versioning is a different concept. All services and artifacts have version numbers assigned to them by Systinet when they are created, or imported to the Catalog. As users create new versions, the versioning process within Systinet implements automatic changes to version numbers for individual artifacts, groups of artifacts, or the entire service, based on the scope of the changes being made.

When a version is created in Systinet then a new branch (newly created artifact instance) is created. The properties of the new branch are automatically set according to the previous version. In other words, as a starting point, the new branch is essentially a clone of the previous version. HPE recommends creating a new branch only when it is necessary to have more than one active version (artifact instance) at the same time. The typical example of this would be the need to have multiple implementations of the same service in production.

You can use the Version context actions in artifact view pages for quick navigation between different versions (branches).

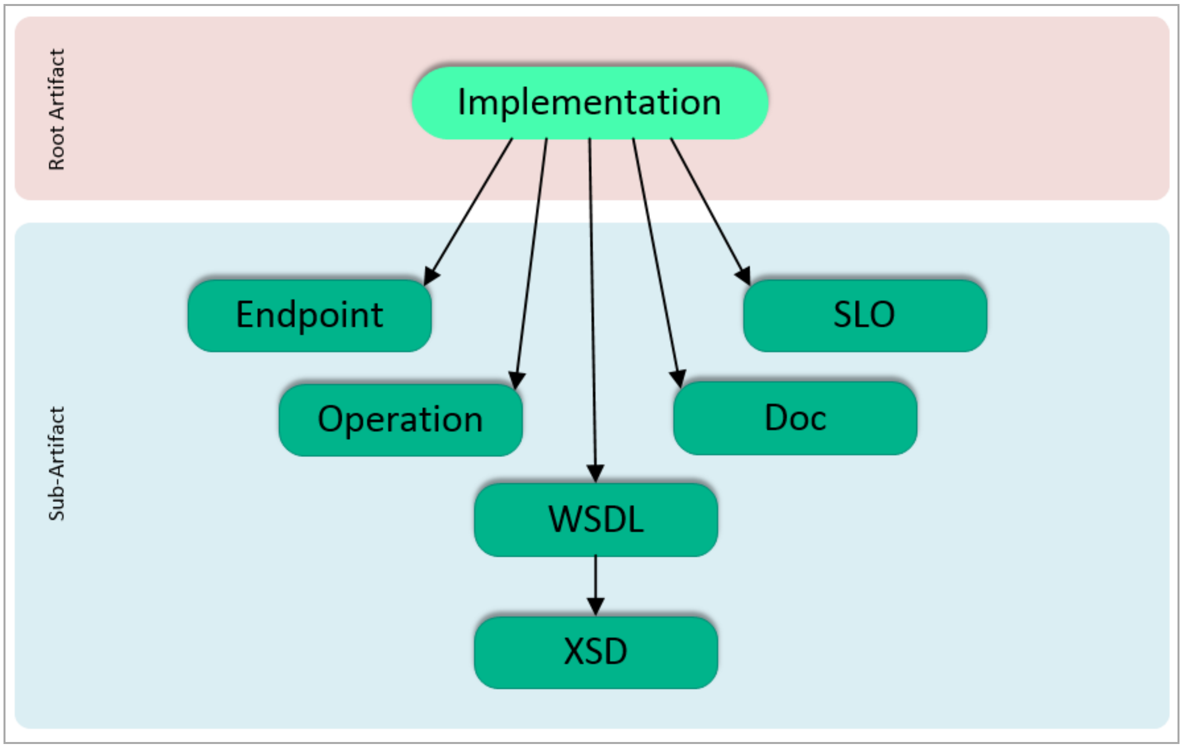
Lifecycle and Versioning

Versioning is a natural consequence of using Lifecycle Governance.

Lifecycle Trees and Versioning

Artifacts that progress through a governance lifecycle together are grouped together in Systinet in a structure called a Lifecycle Tree. Lifecycle trees are defined by the user when setting up a lifecycle and can vary in how they are defined across different lifecycles.

Lifecycle trees are built around the concept of a Root artifact and Sub-artifacts, where there is a single root artifact for any lifecycle tree, with one or more sub-artifacts associated with that root artifact. For example, in the following diagram, the root artifact in the lifecycle tree structure is an Implementation, with sub-artifacts Endpoint, Operation, WSDL, Documentation, and SLO. The WSDL has an additional sub-artifact, XSD.



Because versioning involves potential changes to multiple artifacts in a lifecycle tree, there is a complex relationship between versioning and lifecycle. When a lifecyclee tree (root and sub-artifacts) is assigned to a lifecycle process, versioning is only allowed at the root artifact level; you cannot version sub-artifacts independently of the root artifact, and they always follow root artifact versions. This relationship between root and sub-artifacts in the lifecycle tree is tracked and understood by Systinet, so that the versioning relationship between the root and sub-artifacts is automatically maintained. Users who make changes to the version of a root artifact do not have to manually update the version numbers of the sub-artifacts.

However, not all services and artifacts are placed under governance. In this case, there is no lifecycle tree defined, hence no formal relationship between the different service artifacts. You can version any ungoverned artifact at anytime, but the versioning behavior is different. Unlike the example above, making a change to the implementation version of an ungoverned artifact does not automatically result in an update to the versions of the Endpoints, Operations, WSDLs, etc. The user must apply these changes manually if they want versioning to propagate across other artifacts.

Lifecycle Processes and Versioning

Lifecycle processes drive the versioning process. It is advisable to put artifacts under governance before versioning them, so that the versioning relationships across different artifact types can be maintained automatically by Systinet. This significantly reduces the complexity of managing versioning relationships.

In addition, HPE recommends using appropriate lifecycle processes. For example, for the appropriate versioning of service implementations it is crucial to govern services and their implementations independently.

You can perform the following operations:

- How to Create Versions
- How to Upload Versioned Data Files
- How to Compare Versions

How to Create Versions

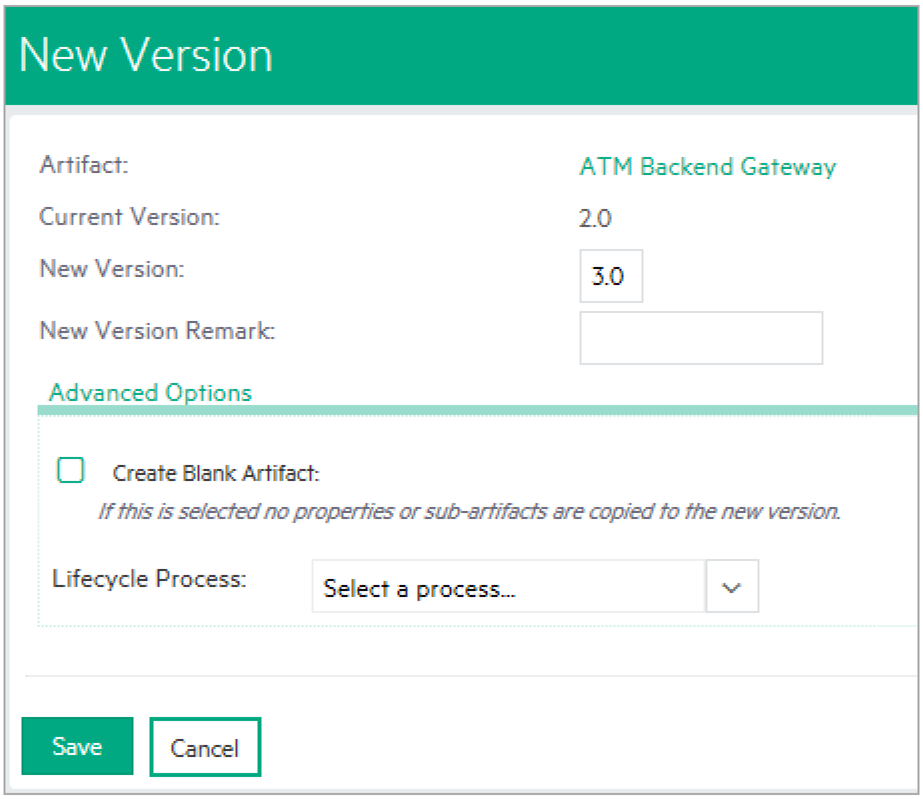
Artifacts that progress through a lifecycle together are grouped into a structure called a Lifecycle Tree. For example, the root artifact in this structure (the one which controls the lifecycle stage of the others) could be Implementation, with sub-artifacts Endpoint, Operation, WSDL, XSD, Documentation, and SLO.

HPE recommends applying versioning to the root artifact and allowing Systinet to propagate the version information to the sub-artifacts as a top-down approach to versioning.

New version functionality is accessible as a context action in Overview tab of Artifact view page.

To create new versions, follow these steps:

1. In the Artifact view page **Overview** tab, click the **New Version** context action to open the **New Version** page.



2. Enter the new version in **New Version** as per the requirement. By default, new version would be mentioned based on the previous version of the artifact.

3. Enter the remark for the new version in **New Version Remark**.

4. *(Optional)* For governed artifacts containing sub-artifacts governed by the same lifecycle process, expand **Advanced Options** and select from the following options:

Parameter	Deacription
Create Blank Artifact	By default, Systinet copies the properties of the previous version to the new version, creates new versions of sub-artifacts in the lifecycle tree, and reuses sub-artifacts that are outside the lifecycle tree (in other words, copies relationships

Parameter	Deacription
	from previous versions). Select Create Blank Artifact to create an empty instance of the root artifact. For example, to create a new version of an implementation without copying properties or creating new versions of Endpoints, Operations, and WSDLs, check this option.
Lifecycle Process	Select a process from the list of applicable lifecycle processes for the artifact type, to manually select a lifecycle process to apply to the new version.

5. Click **Save** to create the specified new version of the artifact.

How to Upload Versioned Data Files

HPE recommends the top-down approach to versioning as it requires fewer manual changes to data content and is less error-prone. However, Systinet does offer a bottom-up approach to versioning.

Systinet enables users to upload the data files into the Catalog. When uploading, you can specify the files to be uploaded and the server folder (a location in repository workspace, where the document is available). Systinet parses the file, processes imports (referenced documents) and creates appropriate artifacts accordingly.

Managing versioning by uploading data files is useful when Systinet is not the master data storage. In such cases versioning is primarily handled outside Systinet and when data files are uploaded to the repository, Systinet automatically handles versions, and the setting of version and server folder attributes.

Systinet distinguishes versions and revisions of definition data files according to their file names. Revisions have the same location in the repository workspace whereas versions have different locations. When you publish a new revision of a data file to the same server folder, Systinet creates a new revision and updates the corresponding artifact. On the other hand, when you upload a new version then Systinet creates a new branch (artifact instance).

In the following example, WSDL document `account1.0.wsdl` with namespace **http://acme.com/account/v1.0** already exists in the repository. You change the document (for example, add a documentation element) but do not change the file name. When you upload the WSDL document to the same server folder then the existing WSDL artifact is updated and a new revision is created. On the other hand, when you upload the WSDL document with a changed file name `account2.0.wsdl` (or to a different folder) and change the namespace to **http://acme.com/account/v2.0** then Systinet creates a new WSDL artifact for a new branch.

Systinet automatically sets the version attribute of artifacts set according to the version in the data file. Versions of definition data files are usually specified in the document target namespace. Systinet enables the administrator to define which part of the namespace to treat as the version.

When you upload a WSDL document you can decide whether to create service and implementation artifacts together with data artifacts (for example, WSDL and XSD artifacts). If so, then Systinet checks whether the implementation and service exist in the repository and, if they do not exist, creates them during upload. However, if they do exist, they are reused.

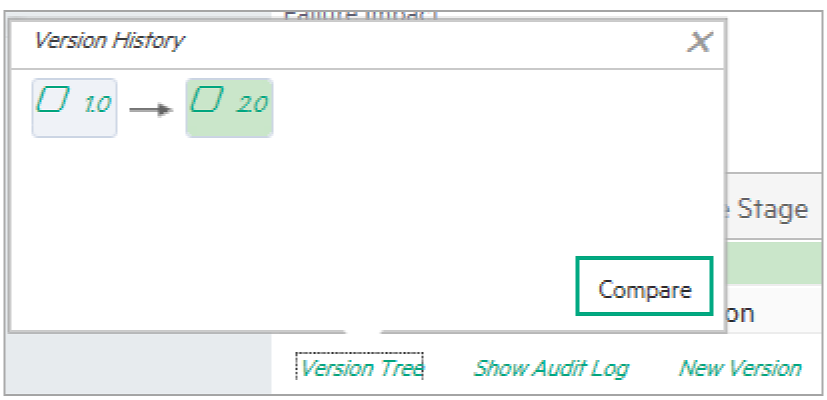
In other words, when you upload a new WSDL document with a new file name and a changed namespace but with the same service name, then Systinet automatically creates a new Implementation artifact and associates it with the existing service artifact.

How to Compare Versions

Systinet enables you to compare different versions of artifacts.

To compare versions, follow these steps:

1. In the Artifact view page, **Overview** tab, click the **Version Tree** context link to open the **Version History** dialog.



2. Select the versions you want to compare and click **Compare** to open the version changes page showing the differences between the selected artifact versions.

3. Use the version changes page to view the differences in the properties and relationships between the versions. Select to view only the **Changed** properties and relationships or **All** properties and relationships.

Chapter 8: Runtime Gateway Interoperability Framework (RGIF) Overview

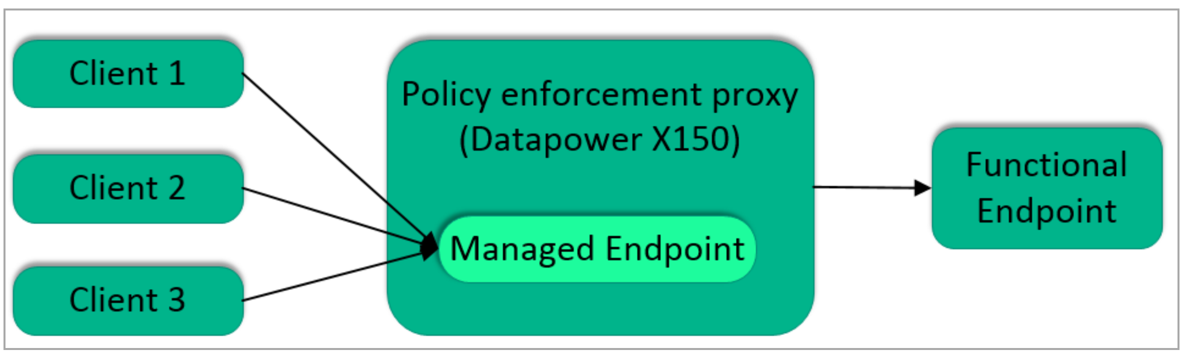
Every corporation has information about IT assets dispersed in two different forms:

1. Operations running the applications in run-time.
2. Applications in design-time governance.

RGIF provides enforcement of both run-time and design-time policies and is based on Systinet contract management with contracts being identified during run-time as well as detecting rogue services. Service proxies are auto-deployed to run-time integration as managed endpoints and service capacities are monitored on a per contract basis.

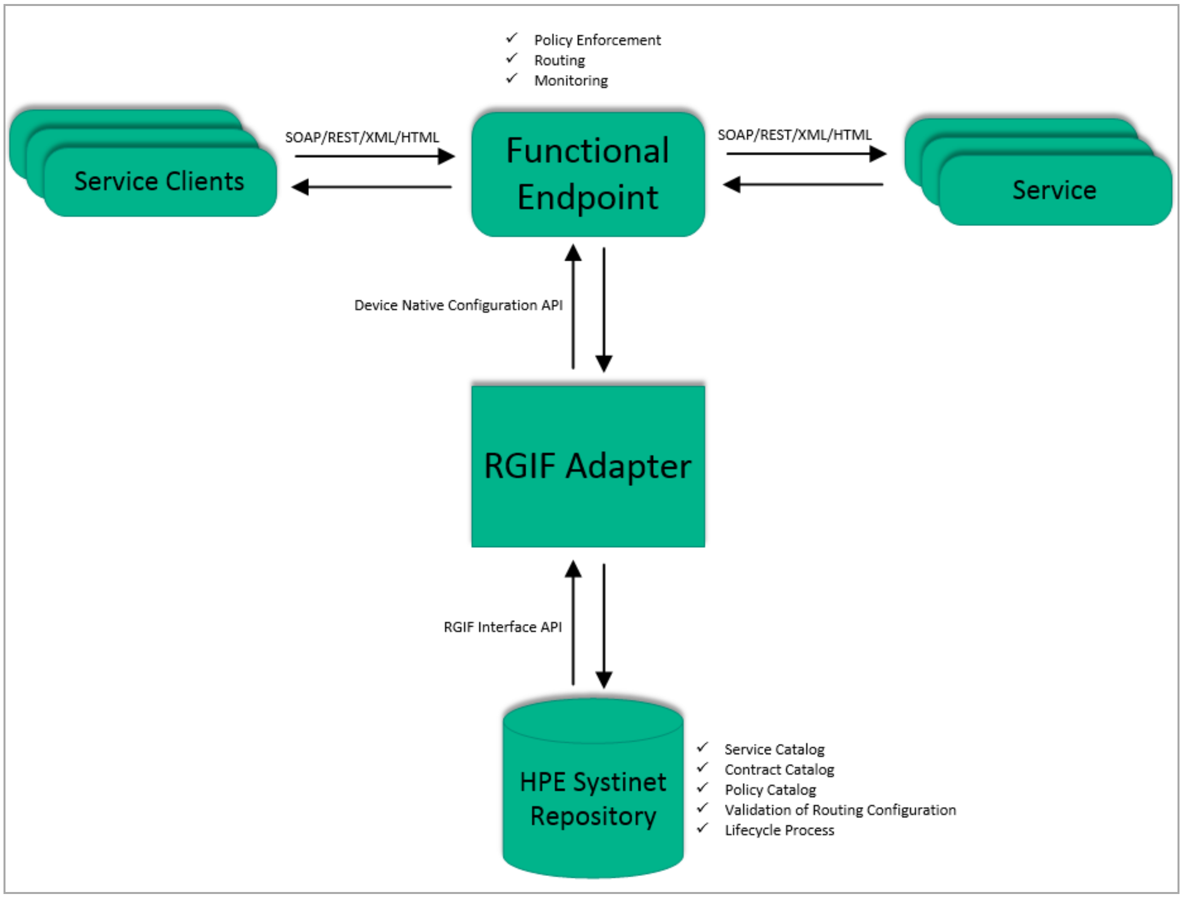
RGIF features multi-device support (such as Layer 7 and IBM Datapower).

The following image shows how a typical communication scenario appears with runtime policy enforcement and without the HPE Systinet Repository:



Clients send messages to the policy enforcement RGIF device (also known as policy enforcement point, PEP) and onto a managed endpoint that has been created by the PEP administrator in order for the forward messages to be sent to the functional (application) endpoint. During the forwarding process runtime policies are applied on the messages being forwarded. These are configured by the PEP administrator as well.

The image below represents the same process with the Systinet repository:



When the Systinet repository comes into play, the messages between the service client and the service flows in the same way as it did in the scenario without Systinet repository. However, the configuration of the PEP device is now handled by Systinet Repository based on the service / policy metadata configured within. Note that Systinet is able to configure multiple devices from different vendors at the same time. When a service consumer/client is using a service, it is captured within the Systinet repository as a contract. Support for different PEP vendors is handled by independent PEP devices and these can be created by implementing an API.

Each device configuration is partitioned into proxy objects with each representing a single managed endpoint and is intended to be created for each functional service endpoint. Each proxy object has a persistent counterpart in Systinet repository represented by a single proxy artifact.

Proxy objects configured on PEPs that do not have the proxy artifact counterpart are referred to as rogue proxies/services.

Proxy objects are created either manually using a dedicated wizard or by an automatic action of a lifecycle process as a side effect of contract deployment. In other words, contract deployment is an action when a proxy object is created or updated to allow message exchange between a service consumer and a service provider.

RGIF in HPE Systinet:

- **Remote implementation (adapter)** - Integration between Systinet and PEP (Policy Enforcement Point) is now communicated through a RGIF interface. Systinet contains RGIF implementations for Layer7 (7.1, 8.1) and Datapower (v6, v7) OOTB.
- **RGIF discovery** - HPE Systinet 10 RGIF provides ability to discover REST and Web services from PEPs.

  From runtime devices, Web services are discovered and synchronized to HPE Systinet as SOA artifacts, while REST services are synchronized as API artifacts. Discovered artifacts could then be governed within HPE Systinet or deployed to different runtime devices or environments.

  Policies from runtime devices are also discovered, decomposed and synchronized into HPE Systinet as RGIF artifacts (proxy, universal policy and policy parameter artifacts).

  - **Discovery UI** - Discovery UI is introduced for manual discovery by administrator (or domain administrator).
  - **Discovery Task** - Discovery task is introduced for automatic discovery.

    Administrator first specifies whether to decompose WSDL of runtime services and synchronization mode by using `platform.rgifdiscovery.wsdls.decomposition` and `platform.rgifdiscovery.synchronization.mode` system properties or by the configuration.

    Then set schedule for RGIF Discovery Task to run at a regular interval.
- **RGIF deployment** - REST service deployment - Repository users could deploy REST services from Systinet to PEP.

Feature summary

Contract development process

- User defined workflow with approval process
- Custom policies and control over manual tasks
- Per contract service monitoring and QoS enforcement
- Tracking of the full history from design time to runtime (included)
- Discovering service utilization trends

- Identification of capacity issues
- Capacity planning

Environment management

- Separate environments, for example, testing/staging/production
- User/role based access control to service information (endpoints, WSDLs etc.)
- Policy management
- Assured information reliability and consistency using policies and lifecycle identification of rogue contracts and service endpoints
- Automatic distribution of policies to integration devices
- Policy versioning

Devices for automatic configuration of runtime governance integration devices

- Vendor neutral (Layer 7, IBM Datapower)
- Open architecture

You can perform the following operations:

- Runtime Contracts
- Manual Proxy Creation and Contract Deployment
- Lifecycle Based Contract Development
- Composite Application Development Lifecycle
- Propagating Service Changes to Proxies

Runtime Contracts

Because proxy objects are created on behalf of a contract, you can apply contract enforcement. This means that only messages sent by negotiated service consumers that are configured in the repository are allowed to send messages to the application endpoints. This is the default behavior of the proxy objects created by Systinet.

RGIF devices need to perform contract identification to ensure contract enforcement. In proxy objects, it is encoded which contracts are allowed to send messages to the proxy object. The identification itself is performed based on message properties such as an HTTP header holding the contract ID sent within each message. There are some other means to perform contract identification; HTTP basic credentials, XPATH expression evaluated over the message and others.

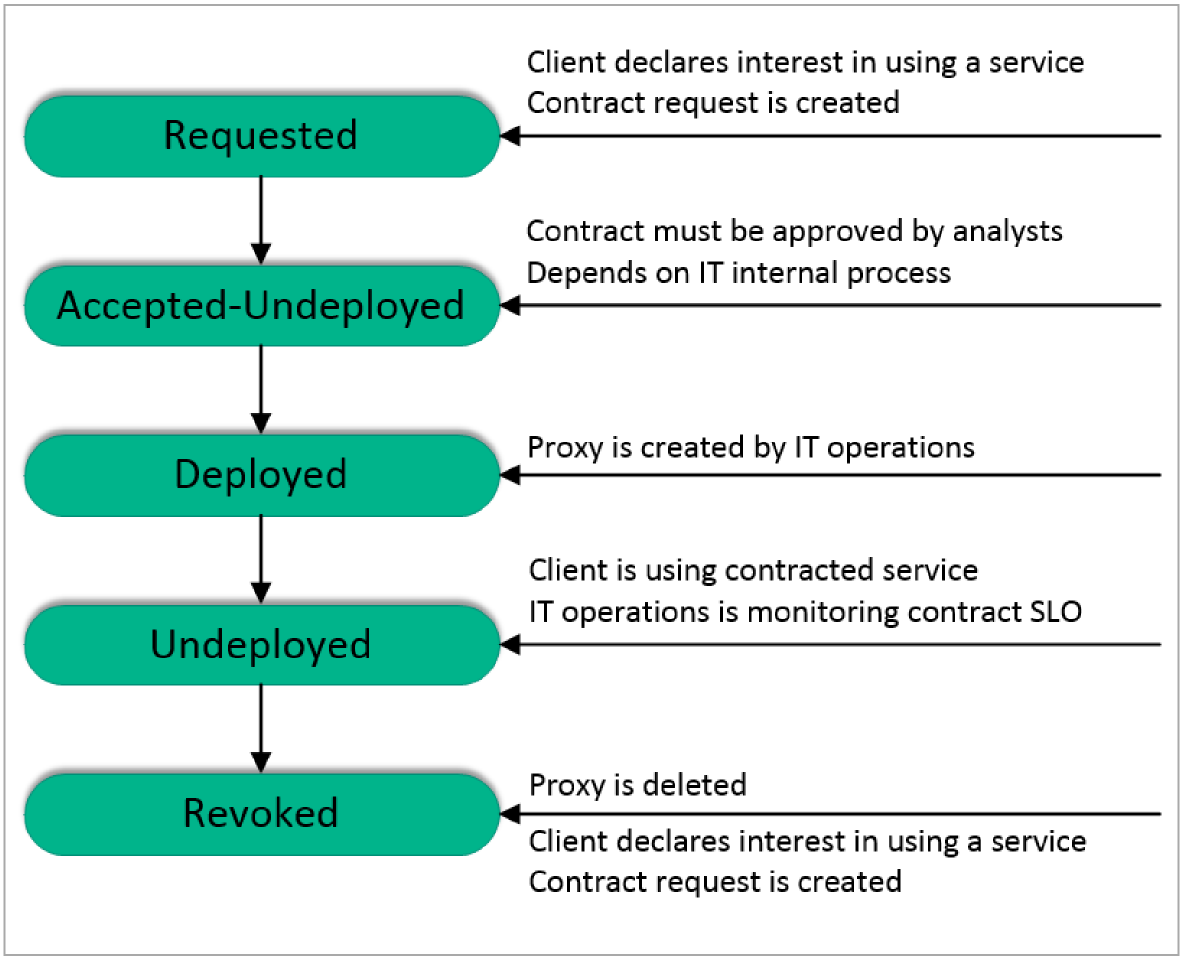
Proxy objects created by Systinet also allow per contract service monitoring, which means that statistics such as the number of messages sent per day by an individual contract may be monitored.

Manual Proxy Creation and Contract Deployment

Proxy objects can be created on demand directly from the repository user interface using a dedicated UI wizard. This means of proxy creation/contract deployment is meant to be used primarily by administrators to fix exceptional states when an automated proxy creation within a lifecycle fails. In some situations where full lifecycle process is not required, it might be used by regular users to create proxies. This feature must be explicitly enabled in the general contract deployment settings.

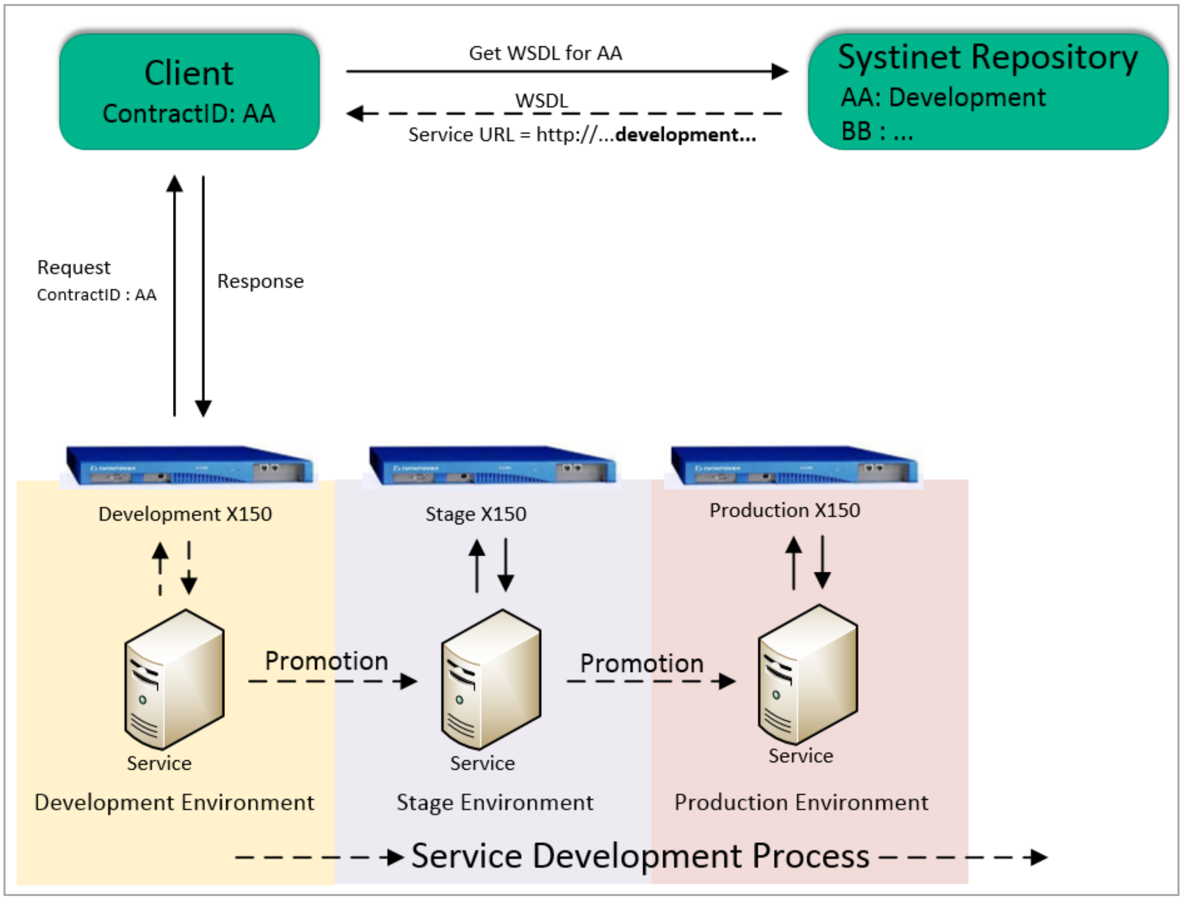
Lifecycle Based Contract Development

Proxy objects can also be created during an contract artifact lifecycle by assigning Create/Remove PEP proxy automatic action assigned to a lifecycle stage. The most simple lifecycle process looks like the following:



Note that the *Requested* state is represented by a contract request artifact and the contract lifecycle starts in the *Accepted-Undeployed* state. It is useful to configure the lifecycle process to be automatically assigned to contracts.

The above lifecycle might be too simple to be used in a typical IT environment where there are different (separated) environments/landscapes for service development/testing/production. Systinet supports this scenario as well and all that is required is to associate RGIF devices with environments and define the contract lifecycle in a similar fashion as likely done for the service lifecycle process – there will be stages matching the environments defined in the lifecycle.

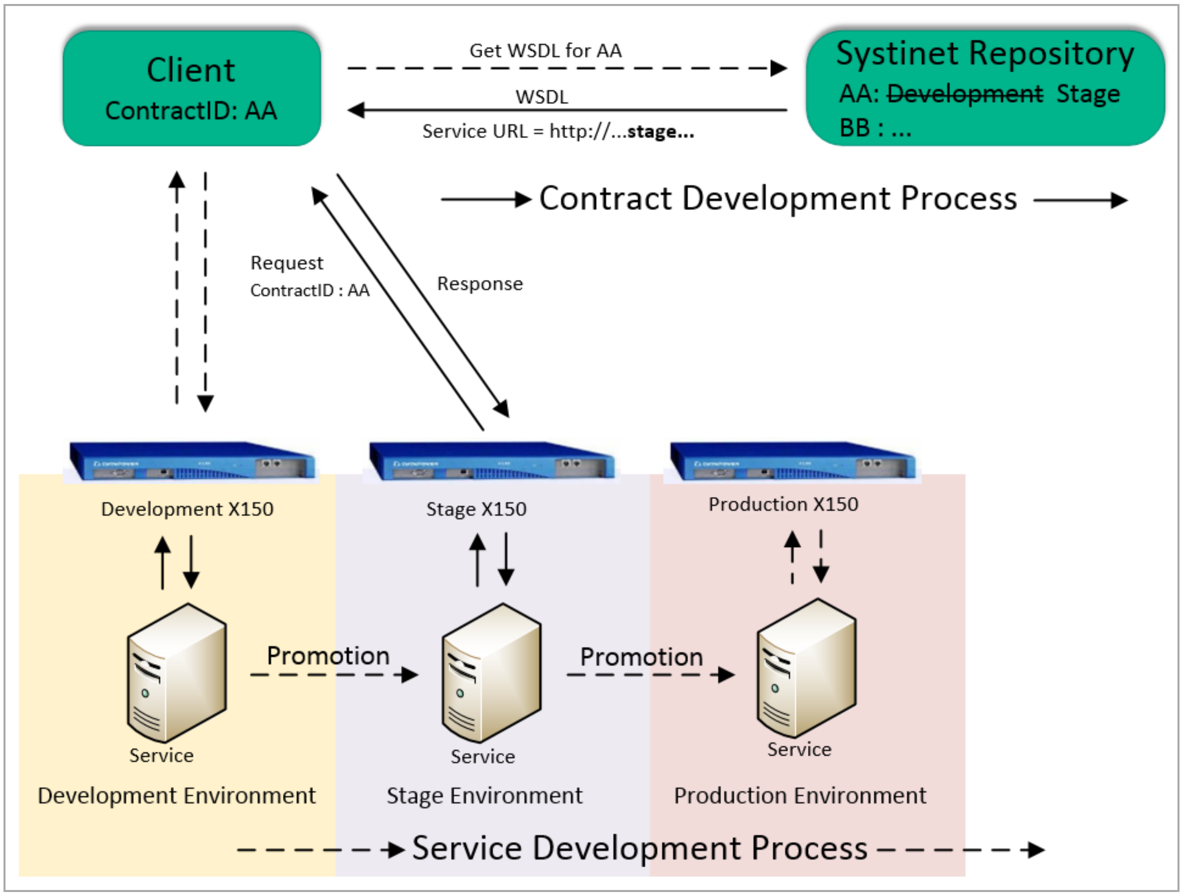


The contract lifecycle has stages matching the service lifecycle and it means the following – when a contract is in the development environment lifecycle stage, it is accessing managed endpoints created for the service hosted in the development environment. In the image above the contract AA is in the Development environment lifecycle stage.

The process is as follows:

1. The client creates a WSDL request on the Systinet Repository passing his contract ID.
2. Repository returns WSDL with the service URL pointing to the RGIF device assigned to the Development environment.
3. Based on the information in the WSDL the client sends a message to the proper proxy object hosted on the RGIF device and the response is returned.

When the contract lifecycle is promoted to the next lifecycle state the client acts in the very same way but will receive a different URL within the WSDL.



The important and valuable aspect about this is that contracts are moved between environments just by changing the information in the repository; client reconfiguration is not required. This becomes useful when the client is deployed multiple times on different computers as in the example of a desktop application being used by multiple users.

Also note that you can have a single contract deployed across multiple environments; in this case the client must pass the contract ID and also the environment which is intended to be accessed.

Composite Application Development Lifecycle

Composite applications are those that are formed from multiple services, are captured within the Systinet repository and have contracts created between them. Composite applications may have their own dedicated lifecycle process and if this is correctly defined it can be used to move composite application contracts and proxies created in these lifecycle processes from one environment to another – Systinet automatically creates these proxies in the new environment.

Propagating Service Changes to Proxies

When a service is changed (such as the change of a functional endpoint), propagating these changes into the RGIF devices is required. This is not done automatically, and you will need to trigger this operation from a lifecycle associated with the modified service (this can be done for implementations and endpoints as well).

> **Note:** This procedure only updates proxies that were previously created for contracts where the service is the under the role of provider. If you are creating proxies for artifacts other than contracts you need to use the Create/Remove proxy procedure and check both the deploy and undeploy check boxes for the affected environment(s) – when executed the proxy will be recreated.

When the procedure Update proxies is executed, it drops all the related proxy objects and recreates them based on the latest information in the SLO and the related endpoint/WSDL information.

The following topics help you propagate the service changes to proxies:

- Quick Start
- Working with Policies
- Managing Proxies

Quick Start

The following sections help you set up Systinet and RGIF devices for use with policy enforcement automation:

- Deploy Remote Layer 7 Adapter
- Deploy Remote Datapower Adapter
- Additional Artifact Properties to Layer 7
- Edit Adapter Configuration
- Adding RGIF Servers
- Creating Contract Management Artifacts
- Defining Default RGIF System Settings
- Setting Contract Development Lifecycle Process
- Publishing a Service

- Defining Service SLO
- Creating Contracts
- Accessing Service Through Proxy

You can monitor performance of the individual contract, see Contract SLO Monitoring.

Deploy Remote Layer 7 Adapter

Systinet introduces the concept of RGIF adapters. Systinet RGIF Adapter is designed to place between Systinet and the proxy management devices. For Systinet server, the RGIF adapter provides management of runtime proxies on the device.

RGIF adapter is a standalone software component deployable to the application server. The adapter exposes WSDL for Systinet. Systinet connects to the adapter as a web service client.

1. Layer 7 adapter package information is provided in: `%SYSTINET_HOME%/deploy/rgif-adapter-layer7.war`.
2. Deploy Layer 7 adapter to jboss by copying `rgif-adapter-layer7.war` to `%JBOSS_HOME%/[node_name]/deployments`.
3. Add Layer 7 certificate to `%SYSTINET_HOME%/conf/client.truststore`.
4. Add Layer 7 certificate to `%SYSTINET_HOME%/bin/serverstart.bat(.sh)` using:

   ```
   + SET JAVA_OPTS=%JAVA_OPTS% -Djavax.net.ssl.trustStore=%SYSTINET_
   HOME%\conf\client.truststore
   ```
5. Restart Systinet.
6. Start the Layer 7 adapter WSDL: `http://[host]:[port]/rgif-adapter-layer7/l7adapter?wsdl`.

Deploy Remote Datapower Adapter

Administrators can configure a remote datapower adapter that allows creation of IBM DataPower XI52.6.0.1.0 devices in Systinet.

1. Datapower adapter package information is provided in: `%SYSTINET_HOME%/deploy/rgif-adapter-dp.war`.
2. Deploy datapower adapter to jboss by copying `rgif-adapter-dp.war` to `%JBOSS_HOME%/[node_`

name]/deployments.

3. Add datapower certificate to %SYSTINET_HOME%/conf/client.truststore.
4. Add datapower certificate to %SYSTINET_HOME%/bin/serverstart.bat(.sh) using:

   ```
   + SET JAVA_OPTS=%JAVA_OPTS% -Djavax.net.ssl.trustStore=%SYSTINET_
   HOME%\conf\client.truststore
   ```

5. Restart Systinet.
6. Start the datapower adapter WSDL: http://[host]:[port]/rgif-adapter-dp/dpadapter?wsdl

How to Provide Additional Artifact Properties to Layer 7 Server

In order to provide additional artifact properties, following are the steps:

1. Modify the script artifact iPepAPI.js.

   The script artifact can to be modified in order to add additional artifact properties into result variable.

   a. Use the line of code below to get information of an artifact:

      ```
      var art = repositoryService.getArtifact(UUID.toUuid(uuid),
      ArtifactPartSelector.ALL_PROPERTIES)
      ```

   b. To get string property, artifact property is defined by the following:

      ```
      art.getProperty(property Name).toString()
      ```

   c. Additional artifact properties into result variable is defined by:

      For example, property A1 of consumer and new artifact is added:

      ```
      var A1= art.getProperty(A1).toString();

      var newUuid=…..

      var newArtifactName=…

      var result = {device:{uuid:deviceUUID,name:deviceName},

      contract:{uuid:contractUUID,name:contractName},

      slo:{uuid:sloUUID,name:sloName},
      ```

```
consumer:{uuid:consumerUUID,name:consumerName, propertyA1:A1},

provider:{uuid:providerUUID,name:providerName},

identity:{uuid:contractIDManagementUUID,name:idManagementName},

script:{uuid:scriptUUID,name:scriptLocation},

newArtifact {uuid:newUuid,name:newArtifactName }

};

result['policies']=policies;
```

d. To add the new properties of runtime policy artifact, the following line of code needs to be modified:

```
temp += '{"uuid":"' + policy.get_uuid() + '","name":"' + policy.getName() +
'"}';
```

2. Modify the template file Layer 7 template file.

   a. Extract the OOTB default template file from the following:

   ```
   ipep-adapter-layer7.war\WEB-
   INF\classes\com\hp\systinet\proxy\mgmt\impl\l7\policy\templates\default.ft
   ```

   b. Add your custom template file in Jboss7 AS in standalone mode.

   c. Open `standalone.bat` then add following file:

   ```
   SET JAVA_OPTS=%JAVA_OPTS% -Drgif.adapter.l7.policy.template.file=custom-
   config-path/custom-template.ftl
   ```

   d. In `custom-template.ftl`, use the syntax of FreeMarker to access to java objects.

   > **Note:** Systinet is using FreeMarker version 2.3.14.

Examples

Example Code	Description
${context['consumer']['name']	to get the artifact name of consumer artifact
${context['contract']['name']	to get the contract name
${context[‘policies’][0].name	to get the name of the first policy which is added into SLO artifact of the contract

> **Note:** Policies are stored in an array.

How to Edit the Adapter Configuration

To edit the adapter configuration, follow these steps:

1. Log on to Systinet as Administrator.
2. Go to **Administration > Default Domain > Integrations**.
3. Click **Add Integrations** under **RGIF Devices**. The **Add RGIF Device** window is displayed.
4. Enter the URL for the adapter in the **Adapter URL**.
5. Click **Edit Configuration** in **Adapter Configuration**.
6. Modify the content of adapter configuration based on below schema:
   a. **Layer 7 adapter**

```
<xs:schema xmlns:tns="http://adapter.rgif.hp.com/"
elementFormDefault="qualified" targetNamespace="http://adapter.rgif.hp.com/"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
<xs:simpleType name="NonEmptyString">
<xs:restriction base="xs:string">
<xs:minLength value="3"></xs:minLength>
</xs:restriction>
</xs:simpleType>
<xs:element name="adapter">
<xs:complexType>
<xs:sequence>
<xs:element type="tns:NonEmptyString" name="name"
maxOccurs="1" minOccurs="1" nillable="false" />
<xs:element name="device" maxOccurs="unbounded"
minOccurs="1">
<xs:annotation>
<xs:documentation>Device adapter name is filled here
</xs:documentation>
```

```
</xs:annotation>
<xs:complexType>
<xs:sequence>
<xs:element type="tns:NonEmptyString" name="deviceId"
maxOccurs="1" minOccurs="1">
</xs:element>
<xs:element type="xs:string" name="location"
maxOccurs="1" minOccurs="1">
<xs:annotation>
<xs:documentation>Device adapter ID is filled here. ID must be
unique....
</xs:documentation>
</xs:annotation>
</xs:element>
<xs:element type="xs:string" name="externalUrl"
maxOccurs="1" minOccurs="0">
<xs:annotation>
<xs:documentation>Mangement URL for device</xs:documentation>
</xs:annotation>
</xs:element>
<xs:element type="xs:string" name="name" maxOccurs="1"
minOccurs="1">
<xs:annotation>
<xs:documentation>Mangement Console URL for device
</xs:documentation>
</xs:annotation>
</xs:element>
<xs:element name="snmp" maxOccurs="1" minOccurs="1">
<xs:annotation>
<xs:documentation>Device name is filled here</xs:documentation>
</xs:annotation>
```

```
<xs:complexType>
<xs:sequence>
<xs:element type="xs:string" name="address" />
<xs:element type="xs:anyURI" name="aggregator" />
<xs:element type="xs:short" name="port" />
</xs:sequence>
</xs:complexType>
</xs:element>
<xs:element name="interface" maxOccurs="unbounded"
minOccurs="1">
<xs:complexType>
<xs:sequence>
<xs:element type="xs:string" name="name" />
<xs:element type="xs:string" name="url" />
</xs:sequence>
</xs:complexType>
</xs:element>
</xs:sequence>
</xs:complexType>
</xs:element>
</xs:sequence>
</xs:complexType>
<xs:key name="deviceId">
<xs:selector xpath="tns:device/tns:deviceId" />
<xs:field xpath="." />
</xs:key>
</xs:element>
</xs:schema>
```

b. **IBM Datapower adapter**

```
<xs:schema xmlns:tns="http://adapter.rgif.hp.com/"
```

```
elementFormDefault="qualified" targetNamespace="http://adapter.rgif.hp.com/"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
<xs:simpleType name="NonEmptyString">
<xs:restriction base="xs:string">
<xs:minLength value="3"></xs:minLength>
</xs:restriction>
</xs:simpleType>
<xs:element name="adapter">
<xs:complexType>
<xs:sequence>
<xs:element type="tns:NonEmptyString" name="name"
maxOccurs="1" minOccurs="1" nillable="false" />
<xs:element name="device" maxOccurs="unbounded"
minOccurs="1">
<xs:annotation>
<xs:documentation>Device adapter name is filled here
</xs:documentation>
</xs:annotation>
<xs:complexType>
<xs:sequence>
<xs:element type="tns:NonEmptyString" name="deviceId"
maxOccurs="1" minOccurs="1">
</xs:element>
<xs:element type="xs:string" name="location"
maxOccurs="1" minOccurs="1">
<xs:annotation>
<xs:documentation>Device adapter ID is filled here. ID must be
unique....
</xs:documentation>
</xs:annotation>
</xs:element>
```

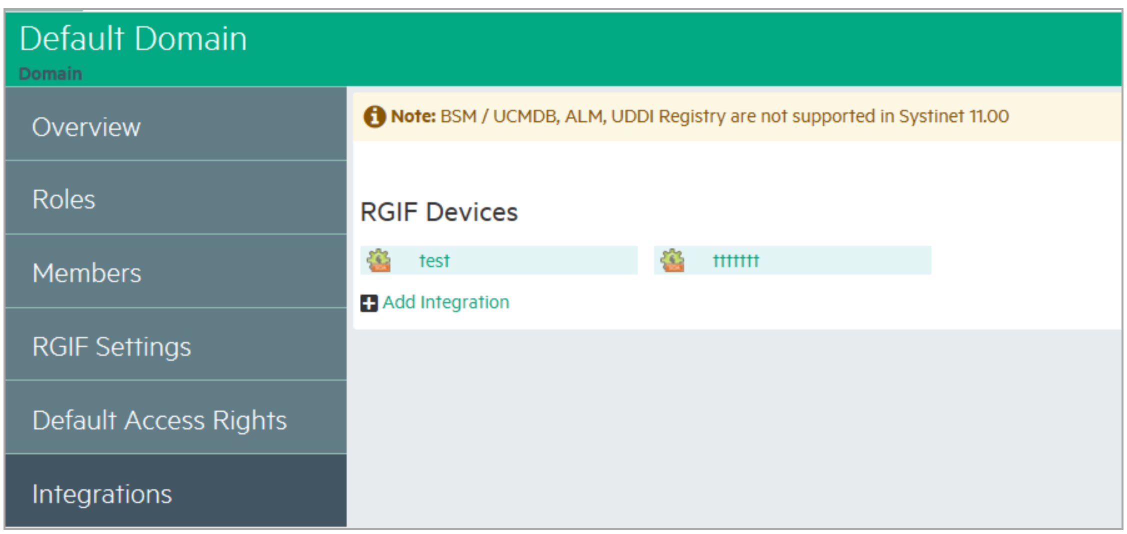
```
<xs:element type="xs:string" name="externalUrl"
maxOccurs="1" minOccurs="0">
<xs:annotation>
<xs:documentation>Mangement URL for device</xs:documentation>
</xs:annotation>
</xs:element>
<xs:element type="xs:string" name="name" maxOccurs="1"
minOccurs="1">
<xs:annotation>
<xs:documentation>Mangement Console URL for device
</xs:documentation>
</xs:annotation>
</xs:element>
<xs:element type="xs:string" name="domain" maxOccurs="1"
minOccurs="1">
<xs:annotation>
<xs:documentation>Device name is filled here</xs:documentation>
</xs:annotation>
</xs:element>
<xs:element name="interface" maxOccurs="unbounded"
minOccurs="1">
<xs:complexType>
<xs:sequence>
<xs:element type="xs:string" name="name" />
<xs:element type="xs:string" name="url" />
</xs:sequence>
</xs:complexType>
</xs:element>
</xs:sequence>
</xs:complexType>
</xs:element>
```

```
<xs:element type="xs:string" name="restEnforcement" maxOccurs="1"
minOccurs="1"/>
</xs:sequence>
</xs:complexType>
<xs:key name="deviceId">
<xs:selector xpath="tns:device/tns:deviceId" />
<xs:field xpath="." />
</xs:key>
</xs:element>
</xs:schema>
```

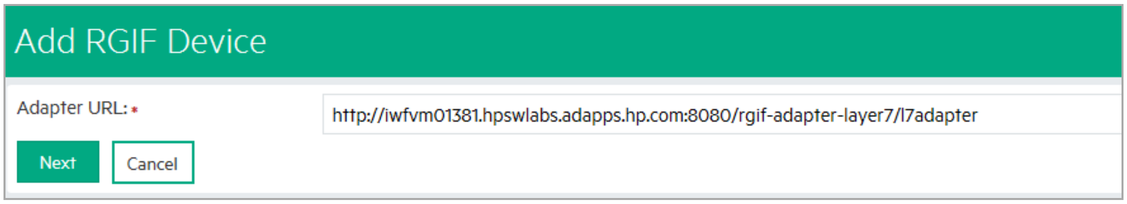
Adding RGIF Servers

To add RGIF servers, follow these steps:

1. Log on to Systinet as Administrator.
2. Go to **Administration > Default Domain > Integrations**.

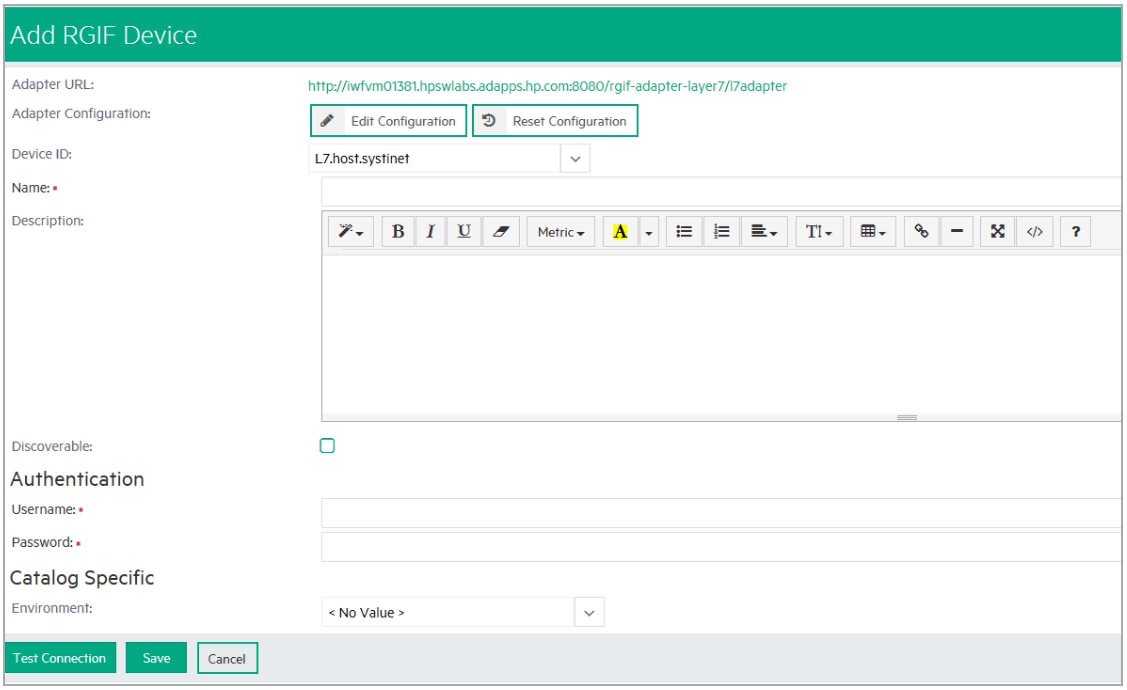


3. Click **Add Integrations** under **RGIF Devices**. The **Add RGIF Device** window is displayed.



4. Enter the URL for the adapter in the **Adapter URL** and click **Next**.

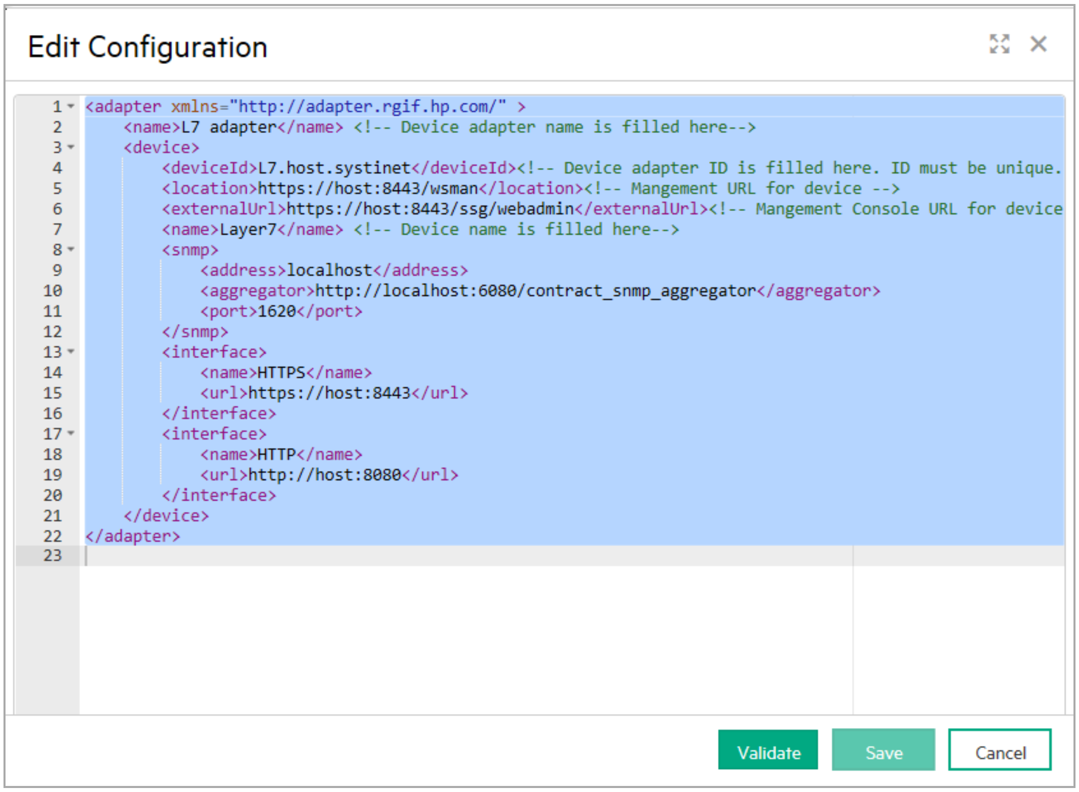
5. Enter information in the rest of the fields and click **Test Connection**.



6. Once the test connection is successful, click **Save** to add the RGIF server.

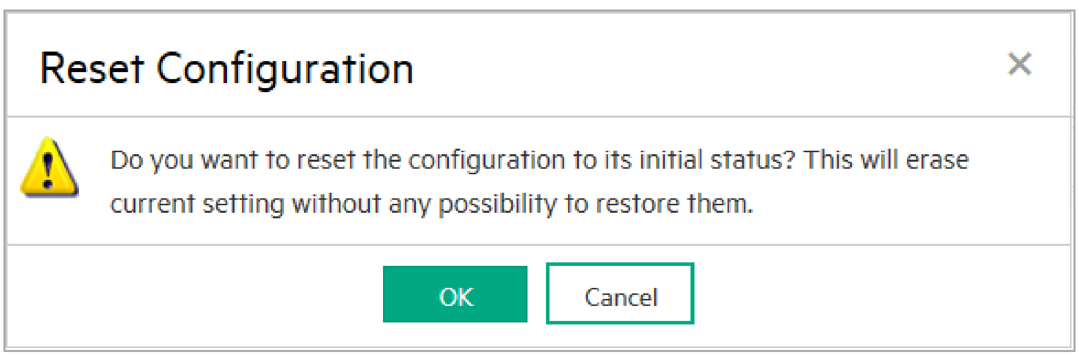
7. Optionally, you can also edit the configuration or reset the configuration.

   a. To Edit the configuration, click **Edit Configuration** in **Adapter Configuration**. The **Edit Configuration** window is displayed.



b. Modify the configuration and click **Validate**. Once validation is successful click **Save**.

c. To reset the configuration, click **Reset Configuration** in **Adapter Configuration**. A confirmation window is displayed.

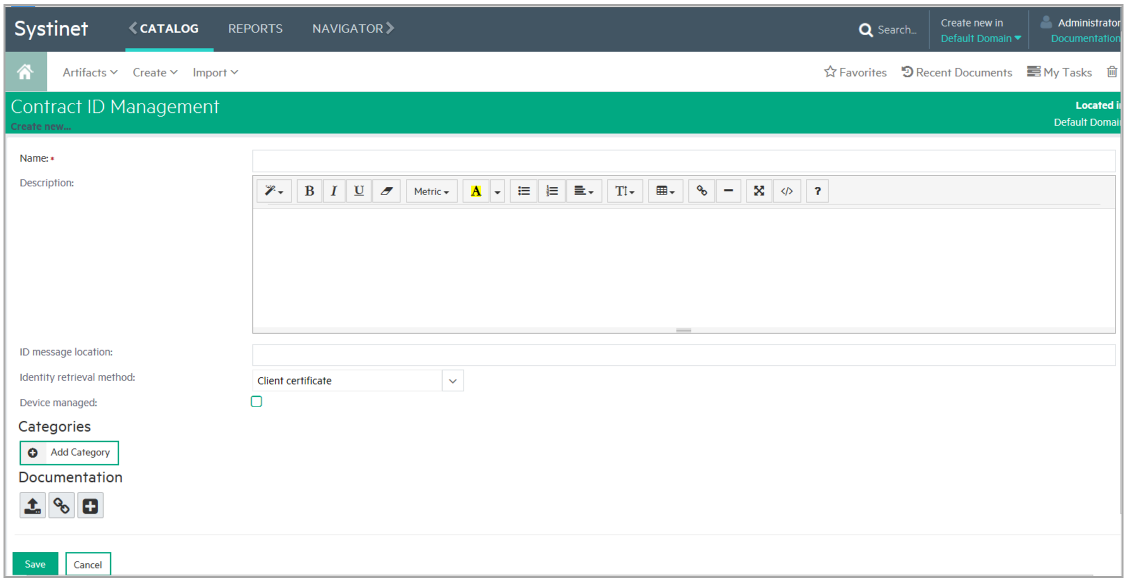


d. Click **OK** to reset configuration.

Creating Contract Management Artifacts

To create a contract management artifact, follow these steps:

1. Click **Catalog** tab.
2. Click **Create > Show More** to open the catalog browser.
3. Click **Contract ID Management**.The **Contract ID Management** window is displayed.



4. Enter the details and click **Save** to create the contract ID management artifact.

Defining Default RGIF System Settings

Contract Deployment

The Contract Deployment consists of the following sections:

1. **SLM Retrieval Configuration**

   These settings are used to configure the repository contacts proxy devices in order to gather information on contract Service Level Metrics (SLM).

2. **Deployment Settings**

   a. **Automatic proxy reuse**

      Repository is capable in configuring multiple contracts to use the same proxy object if these apply the same set of policies. If you want to have a different proxy object (endpoint at the end) for each contract, then uncheck this setting.

   b. **Destroy orphan proxies**

Repository deletes unused proxy objects.

> **Note:** When a service WSDL/endpoint is changed proxy objects are automatically updated without any further action. By default this update is performed by an automatic action defined within the service lifecycle.

c. **Hide functional endpoints if managed are available**

This setting affects the user interface only; if a functional endpoint has it's managed counterpart available then the functional one might be hidden; this is useful when you don't want regular users to access the functional endpoint directly but through PEP only. This setting affects the main display of endpoints/implementations only, users will be still able to access the functional endpoint via relationships (navigator, rest, ui relationship browser)

d. **Allow manual / non-governed deployment actions for non-admin users**

Uncheck this if you don't want users to use the manual deployment wizard and force them to follow the defined contract lifecycle process.

3. **New Proxy Parameters**

a. **Protocol handler**

By default the automatic publishing process makes the proxy object available through all the protocol handler the proxy device has available. Here you can define regexp filter for the protocol handler name that will define which protocols new proxies will be available to.

b. **Path Template**

This settings shows how managed endpoint urls are constructed. You can specify your own default path which can contain following place holders:

${environment}	name of the environment where functional endpoint resides.
${contractID}	contract ID which is the managed endpoint. To utilize this functionality you should uncheck the Automatic proxy reuse checkbox.
${path}	path of the original functional endpoint
${date}	current date in $(YYYYMMDD) format

c. **Proxy layout**

The contract to be deployed might be used to consume multiple different services. Some devices allow to create a single proxy object to handle multiple services per a proxy object. In that case the layout might be:

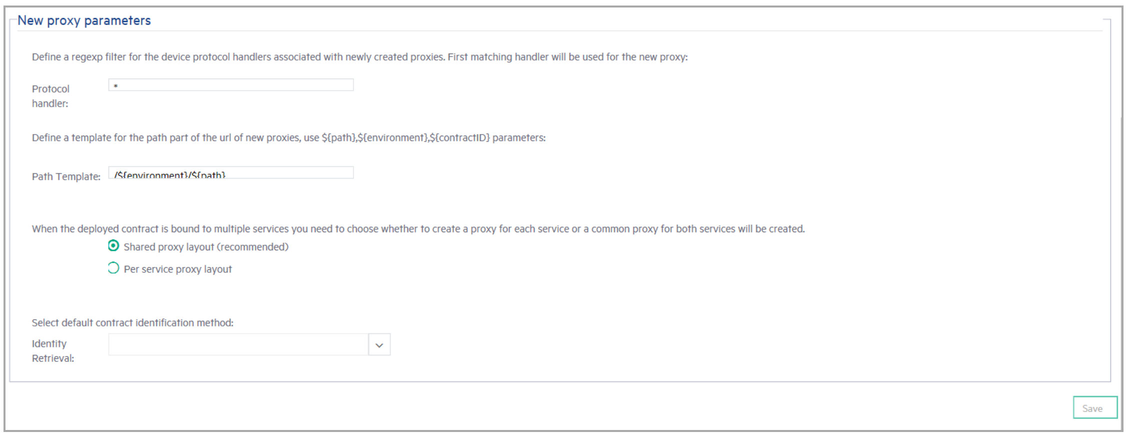
- **shared** - there will be created a proxy object per single contract.
- **per service** – there will be create new proxy object per service available under the contract.

d. **Identity retrieval**

   Defines the method of association of messages by the proxy object with contracts.

To define a default RGIF system settings, follows these steps:

1. Log on to HPE Systinet as Administrator.
2. Click **Administrator** and select your working domain.
3. Click **RGIF Settings** tab to define default RGIF system settings and scroll down to **New Proxy Parameters**.

4. Enter the **Identity Retrieval** field and click **Save**.

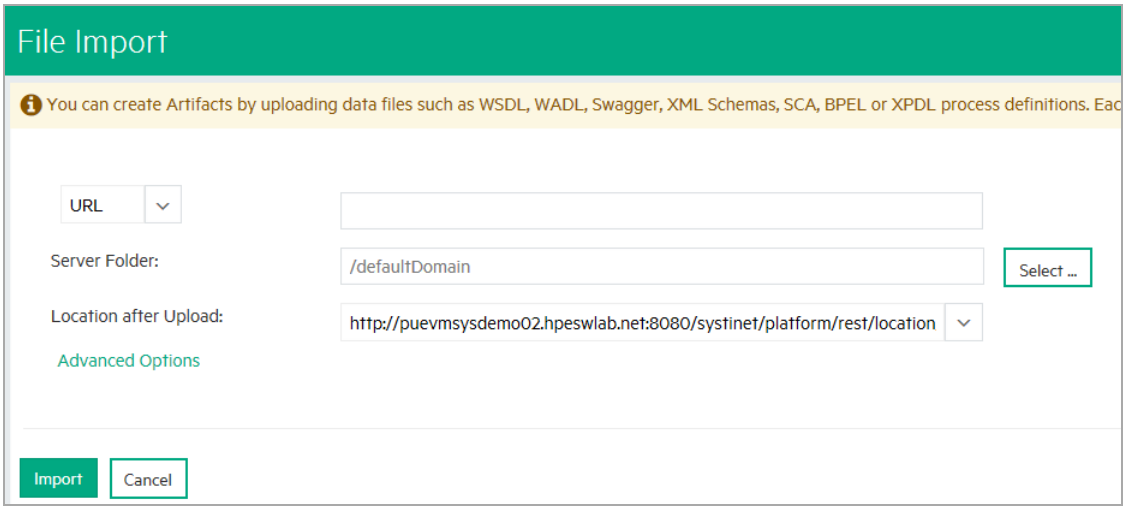
Publish a Service

For demo purposes there is demo service available under `PLATFORM/demo/proxy_mgmt/hello_service` and start it.

Check the service WSDL under `http://localhost:6060/demo/basic/HelloService/wsdl`.

To publish a service, follow these steps:

1. Go to **Catalog > Import > File**. The **File Import** window is displayed.



2. Enter the required details and click **Import** to publish the service.

Defining Service SLO

Open the Hello service and create a Default SLO artifact for it under SLO.

To open the service and create a default SLO, follow these steps:

1. Open the Hello service detail, in the Overview tab click . The **Create Proxy** window is displayed.
2. Enter name as *Default SLO* and use the default values for the rest of the options.

   Using the SLO you can override the settings and you can associate policies with a contract.

Creating Contract

To create a contract request for the hello service, follow these steps:

1. Make the service consumable.

   Ensure to associate proper SLO with the contract.
2. Request approval in the “Stage“ lifecycle stage.

   The approval will be automatically granted. On the background the proxy object for the hello service will be created.

Accessing Service Through Proxy

Start the SOAP UI tool available from `http://www.soapui.org/`.

Create new project and as initial WSDL/WADL, use the `wsdl url` property from the contract page view in the Systinet repository.

Notice that there is a ContractID associated with the contract. As we have chosen the ContractID HTTP header style of identification of contract on the proxy object, we will have to pass this string in the "ContractID" HTTP header to the proxy.

Working with Policies

SLO objects might be associated with runtime policies. Runtime policy is an artifact that is created by importing and synchronizing it with a policy from an RGIF device. Policies are handled differently by different devices. You need to check the particular device manual to be aware of it's specifications and limitations.

Policies that can be downloaded from the device into a repository must follow the following naming convention, that is, the policy name must end with the "_policy" string. Otherwise, the device ignores them.

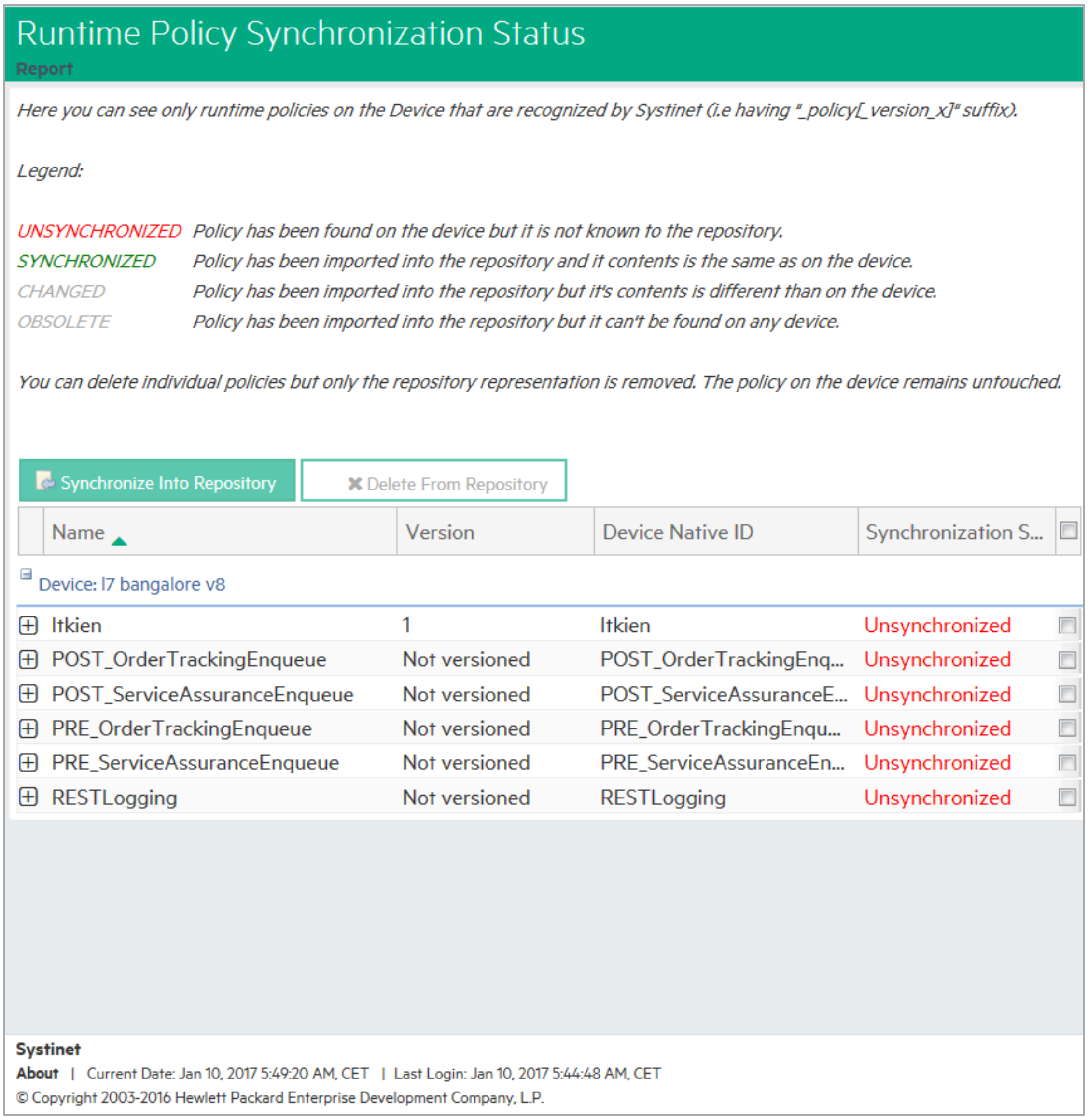
The following are the topics that help you work with policies:

- Creating Policies
- Using Policies
- Policy Versioning

Creating Policies

To import a policy from the device into repository, follow these steps:

1. Log on to HPE Systinet as Administrator.
2. Go to **Administrator > RGIF Run-time > Runtime Policies**. The **Runtime Policy Synchronization Status** window is displayed.



You will get a list of all policies available on all devices known to Systinet. Those marked as **SYNCHRONIZED/CHANGED/OBSOLETE** are already imported into Systinet and the ones that are marked as **UNSYNCHRONIZED** are not imported into the HPE Systinet repository.

3. To import those policies from Device to Repository, you can select them and click **Synchronize Into Repository**.

   The whole definition of the policy is uploaded into repository and can be later uploaded into a different device (this is done automatically by Systinet if it is needed).

Using Policies

You can associate runtime policies with SLO artifacts that are linked to contracts. Once the contract is deployed it's associated policies are configured into the proxy object created for the contract.

Note that policies linked to a SLO are also divided into groups by environment. Each link has a property called useType (it is available using DQL) which is equal to the value from the environment taxonomy. By default Systinet includes a preconfigured user interface where only Stage and Production environments are available for association with policies on the SLO overview page.

You can customize Systinet to support policies for other environments as well. All you need to do is to switch to UI customization mode and duplicate the setup of the production environment policy links, and change the environment labels and taxonomy key.

Policy Versioning

SystinetRepository integration with RGIF devices supports policy versioning – you will need to use the following naming convention:

- Policy objects on the devices that have names ending with _policy are thought to be non versioned.
- Policy objects that have names ending with policy_version_{version number} (like policy_version_1, policy_version_22) are thought to be versioned.

Non versioned policies are expected to be the same across all the devices and changing it in one place means that it should be changed in all other places where it is used. It is the responsibility of the administrator to assure this. When a contract using such policy is deployed, the policy already available on the device is automatically used. If it is not available the last synchronized revision of the policy artifact is used to reconstruct to policy object on the device.

Using versioned policies on the other hand gives you the possibility to use different version of the same policy across multiple contracts. Also you will be able to track those versions using the UI.

Manage Proxies

As an Administrator, you can review the proxies and their status using the **Administration** tab. To manage the proxies and their status, go to **Administration > RGIF Run-time > Proxy Management**. A report of synchronized and unsynchronized proxies are displayed.

Proxy Category

The following categories of proxies are available:

Category	Description
Synchronized	Proxies marked as Synchronized are both correctly registered in the repository and in the devices.
Unsynchronized	Proxies marked as Unsynchronized indicate that there is a mismatch between the information in the repository and in the device.

The best way to resolve such a state is by deleting the proxy and rebuilding it manually.

> **Note:** Rogue services can be detected using the dialog described in the previous section; these are those marked as unsynchronized and available on the device but not in repository.

The following topics help you manage the proxies:

- Creating Manual Proxies
- Working with Proxies
- Enabling X150 Remote Configuration
- Enabling L7 Remote Configuration
- L7 SLM Handling

Creating Manual Proxies

You can create proxies manually using a wizard.

To create a proxy manually, follow these steps:

1. Perform one of the following:

   a. Go to **Administration > RGIF Run-time > Creat Proxy**.

   b. Go to Contract Deployment Status page, click on the **+** to expand the contract, and click **Deploy**.

   The **Create New Proxy** window is displayed. By default, **Contract** is selected as artifact type.

2. Specify the following parameters for the new proxy:

   a. Specify the frontend protocol used by the proxy. It must be preconfigured on the device first. The newly created endpoint will use this protocol. To create a frontend protocol on a device you need to follow the proper device documentation.

   b. Provide a unique name for the new proxy object. You can find the proxy object by this name in both the repository and the RGIF device.

   c. Choose a preconfigured contract id retrieval methods. For more details, see "Defining Default RGIF System Settings" on page 122

3. Confirm all the settings before the proxy is finally created. You can also customize the URL of the new managed endpoint.

Working with Proxies

SLO objects might be associated with runtime policies. Runtime policy is an artifact that is created by importing it / synchronizing it with a policy from a proxy device. Policies are handled differently by different proxy adapters. You need to check the particular device manual to be aware of it’s specifics and limitations.

It is common that the policies that can be downloaded form the device into repository need to follow some naming conventions, typically their name must end with the “_policy” string., otherwise the adapter ignores them.

Enabling XI50 Remote Configuration

You will need to explicitly enable remote management of the XI50 device.

To enable X150, follow these steps:

1. Log on to the default domain as admin.
2. Open the **Objects** menu on the left.
3. Scroll down to **Device management** and click **XML management interface**.
4. Fill in the required information in the window that is displayed and click **Apply**.

Enabling L7 Remote Configuration

You will need to explicitly enable remote management of the L7 device.

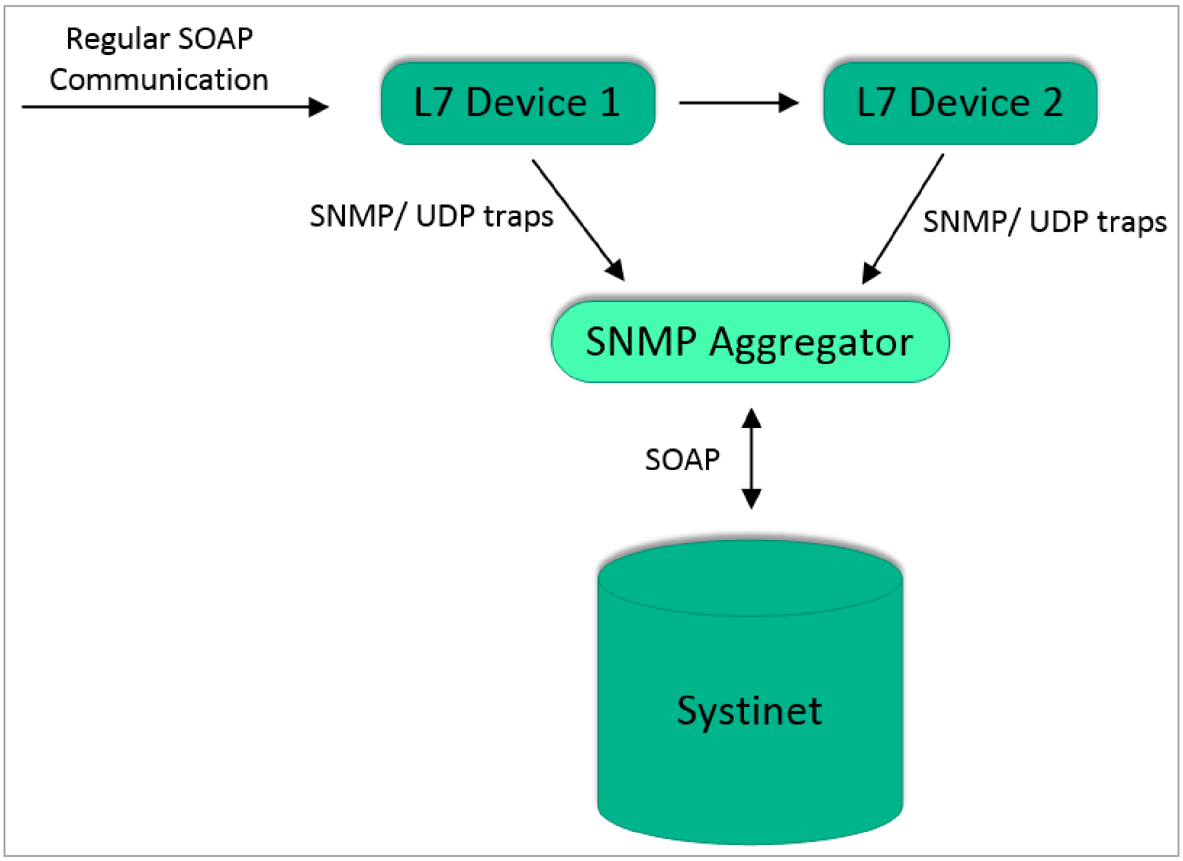
In the left bottom corner click on the device name and open the popup menu. Click **Create internal service** and click **Finish**.

Environment limitations and setup

1. The Layer 7 device requires that you run Systinet with Java version 1.6 or later.
2. Systinet can be run on JBoss versions 6.2 or 7.1.

L7 SLM Handling

Layer 7 device doesn't support per contract SLM monitoring directly, however Systinet provides functionality to get over this obstacle. The following image describes the functionality:



The L7 device generates SNMP traps for the messages passing through the device, these traps are aggregated in a separate SNMP aggregation server which is part of Systinet installation. Systinet then regularly fetches the aggregated information about contracts from the SNMP aggregation server. The format of the SNMP trap message which the aggregator understands is as follows:

```
{contractID= 6441d6c0-9705-473e-89fa-ce23946be003;deviceId= 8441d6c0-9705-473e-
09fa-ce2e946be0ee;type=OK}
```

The ‘contractID’ is the contract UUID in Systinet repository, ‘deviceId’ is the device UUID in the repository and type is one of the following fixed strings: OK/ERROR/THROTTLED.

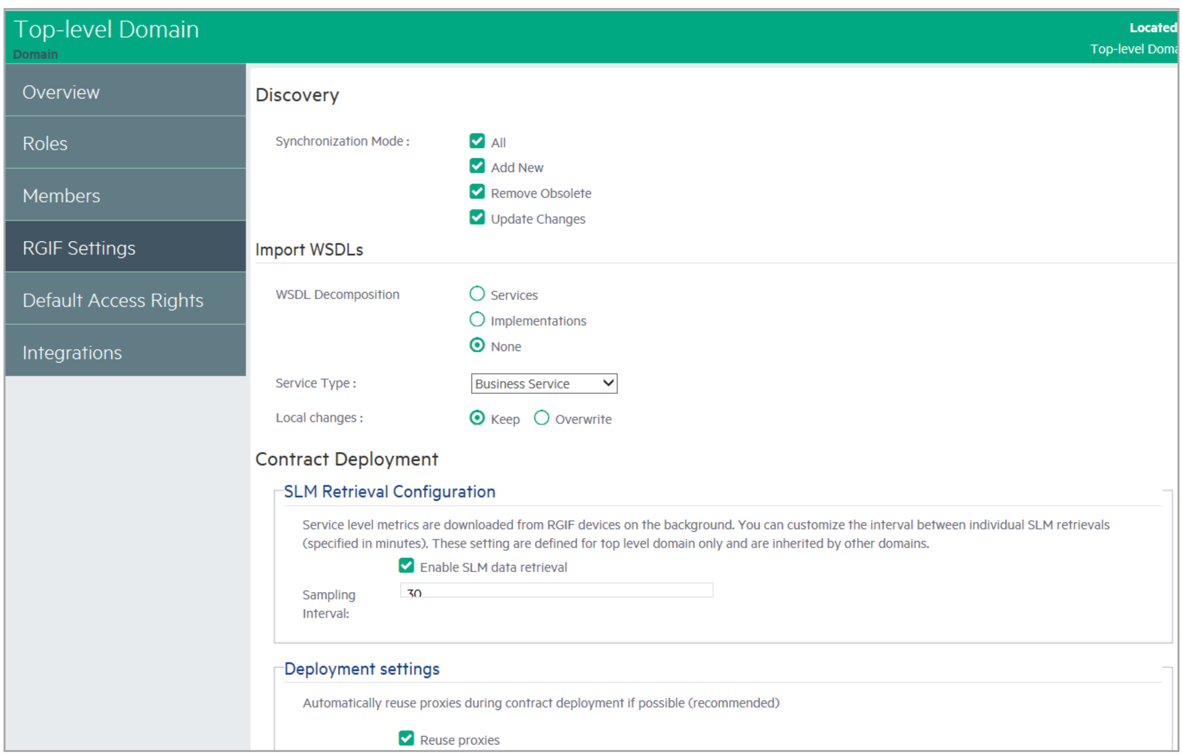
To start the aggregator, go to PLATFORM_HOME/bin and execute the following:

```
snmp_aggregator.sh -capture
```

This starts the server with the default settings – listening on the port 1620 for SNMP traffic, listening on port 6080 for communication with Systinet. You can override these defaults with extra command line parameters. For more details on the parameters, check the help using `snmp_aggregator.sh -help`.

> **Tip:** When you use the aggregator for the first time ensure to use the `-debug` parameter that logs all the incoming SNMP traffic.

You also need to make Systinet aware of the aggregator; view the SLM setting in the RGIF Settings tab.



The SNMP Host and SNMP Port is used to configure L7 devices where the SNMP traps will be sent to. The aggregator is the address of the aggregator web service interface where information about contract performance can be obtained. All the SLM settings are defined in the context of the top level domain –

when changed within a sub domain configuration the top level domain will be updated as well. This is true, not only for Layer 7 but also for all the other adapters.

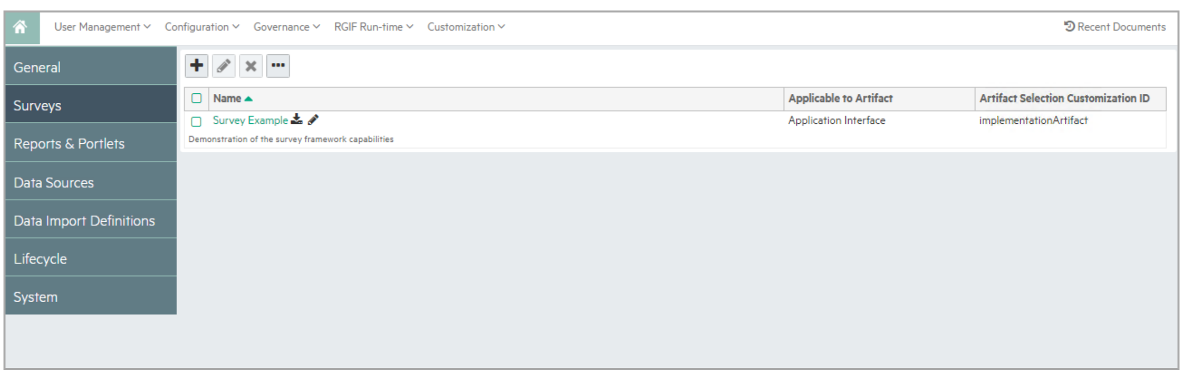
Chapter 9: Surveys

This section covers the following topics :

Understanding Survey Definition

A Survey Definition in Systinet consists of the questions in a survey. This Survey Definition provides an overview of the survey framework capabilities. The Survey Example is an example of survey definition that demonstrates the survey framework capabilities.

> **Note:** Only Administrator role can create or edit survey definitions. Survey Definitions can be accessed both from **Survey Definition** in Catalog UI and **Manage Scripts** in Administration UI.



Starting New Survey

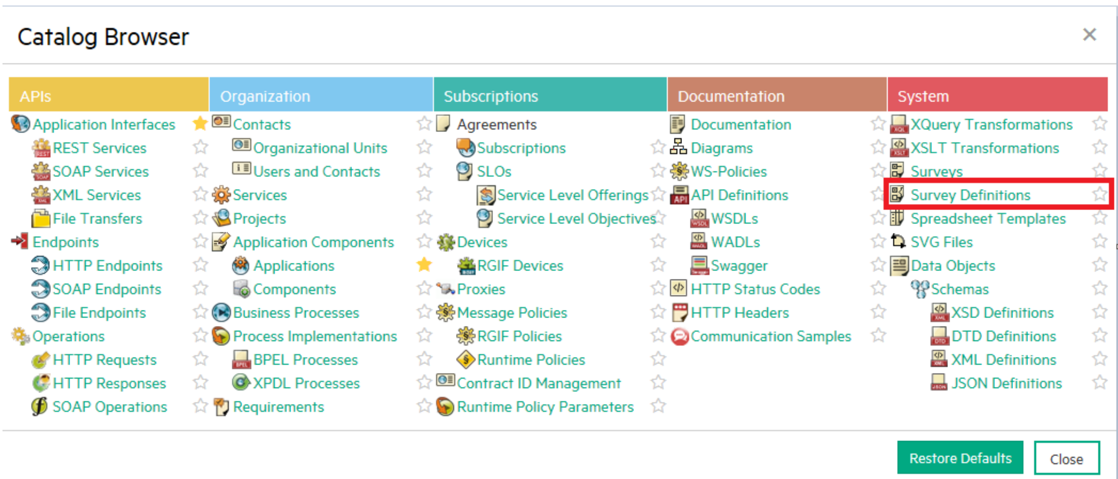
Once a survey is defined (i.e. Survey Definition artifact is created and previewed), a Survey Manager or Administrator can invite the owner or contacts of the artifacts to fill out the survey (Survey artifact).

A survey comprises of a list of artifacts, respondents and their responses.

> **Note:** Only Survey Manager or Administrator can start a survey.

To start a survey, login as a user with Survey Manager role/credentials and follow the steps below:

1. Open Catalog Browser and click **Survey Definitions** under Content tab.



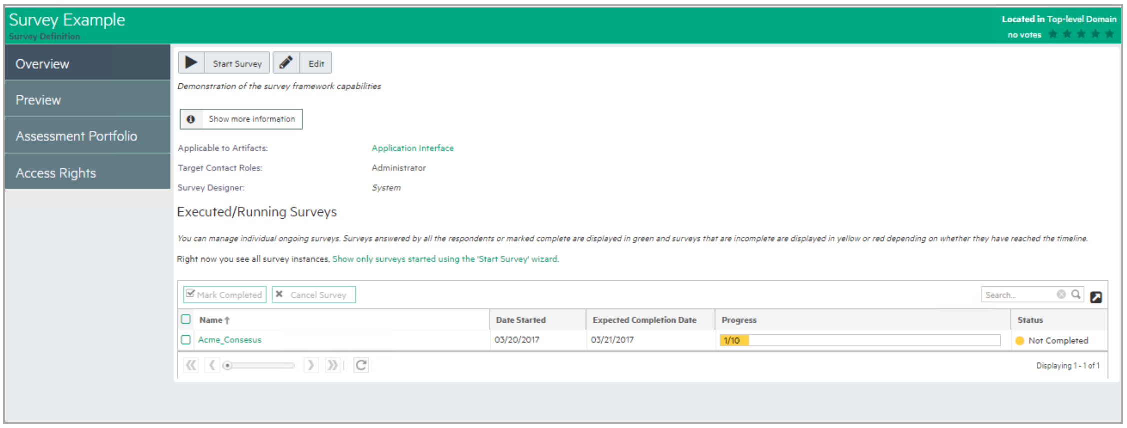
2. Select a survey definition to start the survey. If you are the Administrator, you may click **Edit** to change the following fields in the survey definition:

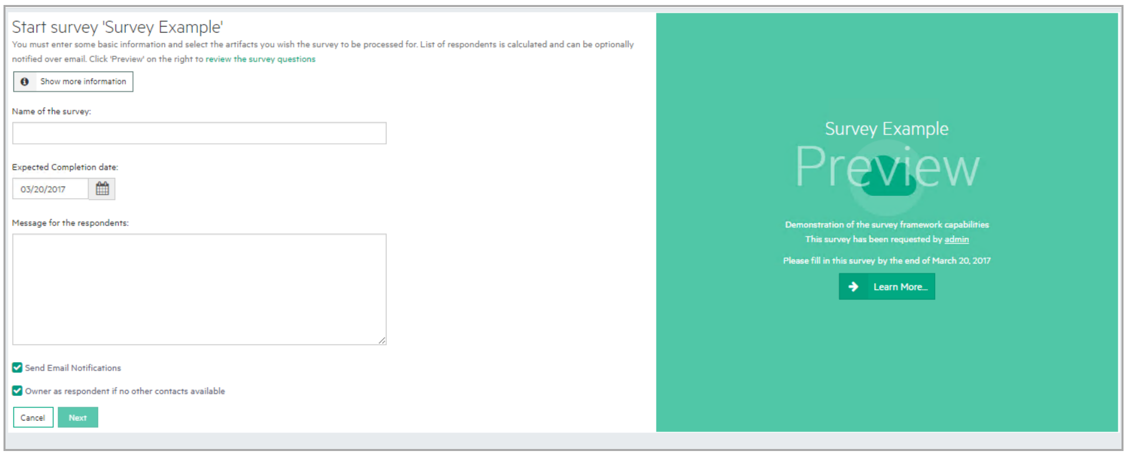
    a. Applicable to Artifacts: artifact types this survey applies to.

    b. Target Contact Roles: contacts under the survey artifacts who will be invited to take the survey. By default, all contacts of survey artifacts are invited.

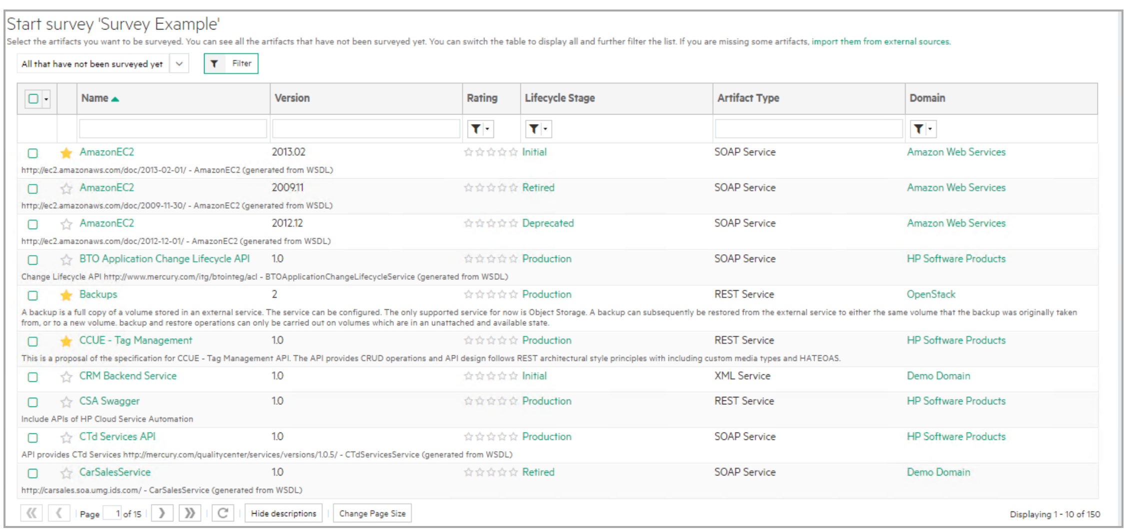
    > **Note:** Survey Manager is not allowed to access **Edit** function.

3. Click **Start Survey** and fill in the required information to begin with survey.





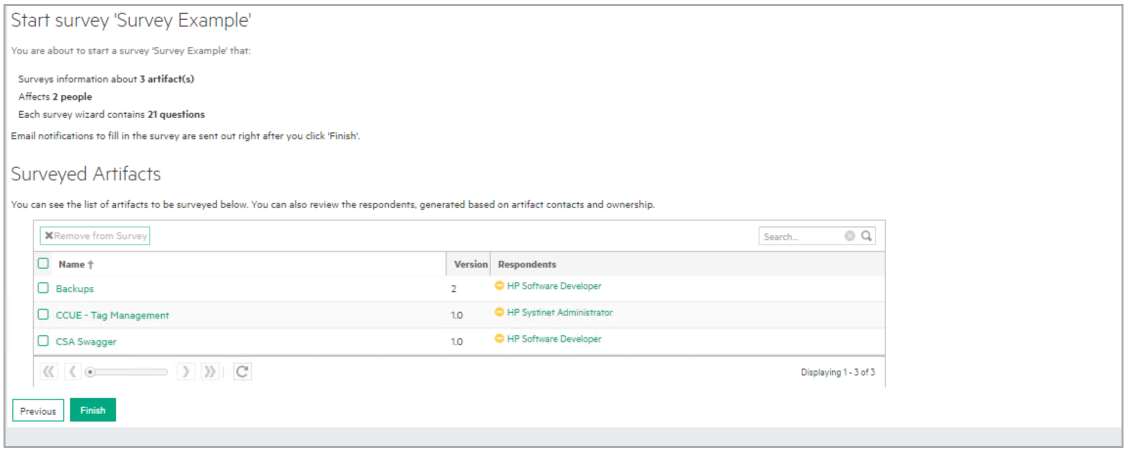
4. Enter the name and click **Next**. Select the artifacts to be included in this survey.



Note: The filter **All that haven't been surveyed yet** is selected by default. You can select

> **All** to view artifacts that have been surveyed earlier.

5. Verify the counts of artifacts and respondents and if they are as expected. You can do the following, if required:
   - Remove unwanted artifacts from the survey
   - Add or remove respondents
6. Click the **Finish** button visible at the bottom of the list.



Undertaking the Survey

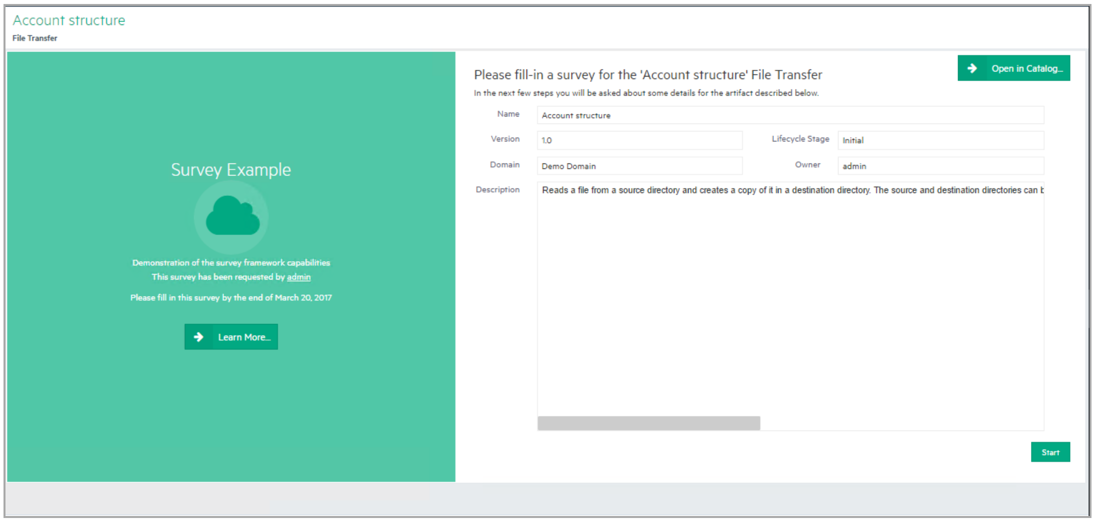
You can respond to the survey in the following ways:

- **Via Notification Email:** respond to an invite for survey through email by Survey Manager as given below:

  a. Open your Inbox and look out for an email with the subject title “Survey Invitation: …” sent by Systinet.

  b. Open the link corresponding to the artifact name (for example : Agresso). The survey opens in a new window. You need to login to Systinet in order to fill in the survey.



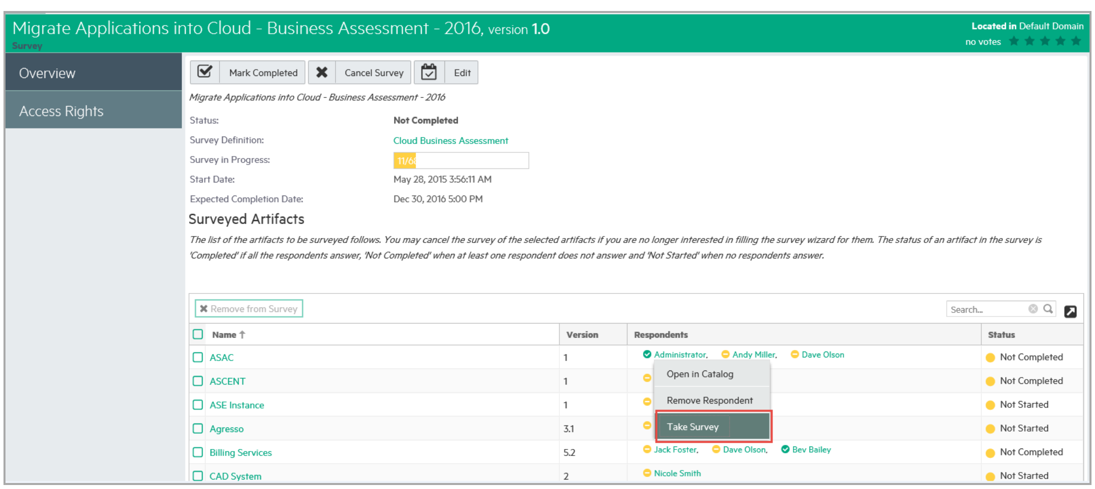
> **Note:** Your account must at least have the READ permission for the survey artifact, else you will just see an error message in the open window. If this happens contact your administrator.

c. Answer the survey questions, then click **Finish** to complete the survey for that artifact.

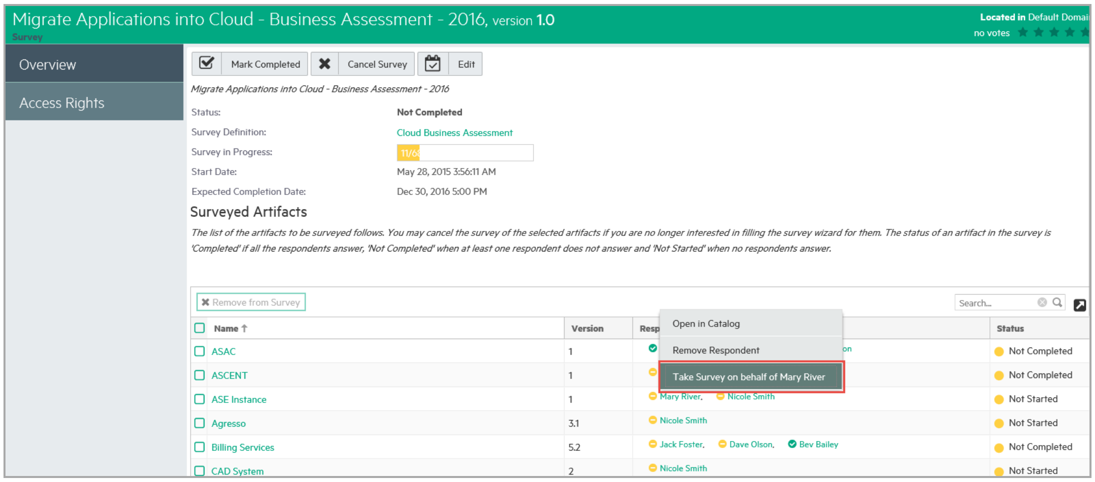
d. Repeat steps 1-3 to complete survey for other artifacts.

- **Via a Survey Instance:** respond to a survey directly on Systinet UI as given below:

a. Open the survey artifact you wish to undertake. Look for the surveyed artifacts you would like to respond to. Click your name in the respondents list to start filling out the survey.



b. A Survey Manager or a user with 'write' permission for the current survey can also undertake the survey on behalf of other respondents. Click the particular respondent's name and select the option **Take Survey on behalf of [respondent name]**.

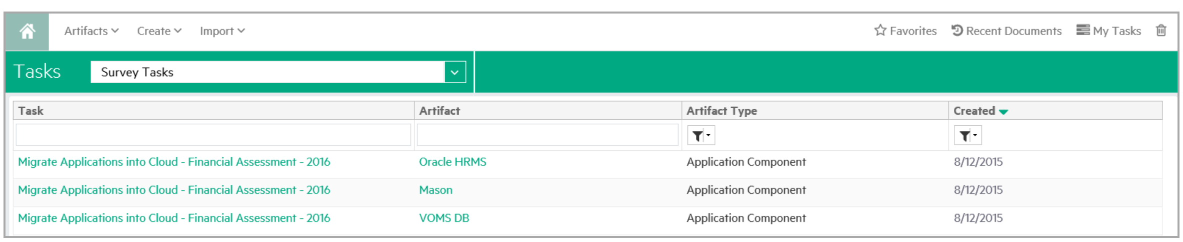


Keeping Track of Survey

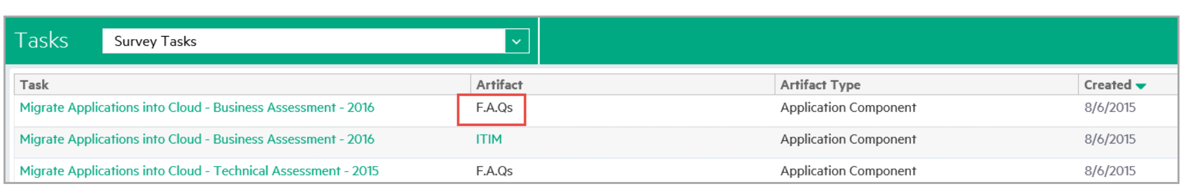
As a survey respondent and user you can keep track of the surveys that require your response via Survey Tasks. These tasks are created for each respondent in a survey right after the survey is started, or when a user is added into that survey as a respondent. The task is removed once a respondent finishes the survey or is removed from the survey.

Survey respondents can follow their tasks to complete the surveys. The survey tasks are available right on Catalog page and Task page.

Tasks page



Note: If a particular user does not have 'Read' permission to the survey artifact, the link to that artifact will not be available. See image below.

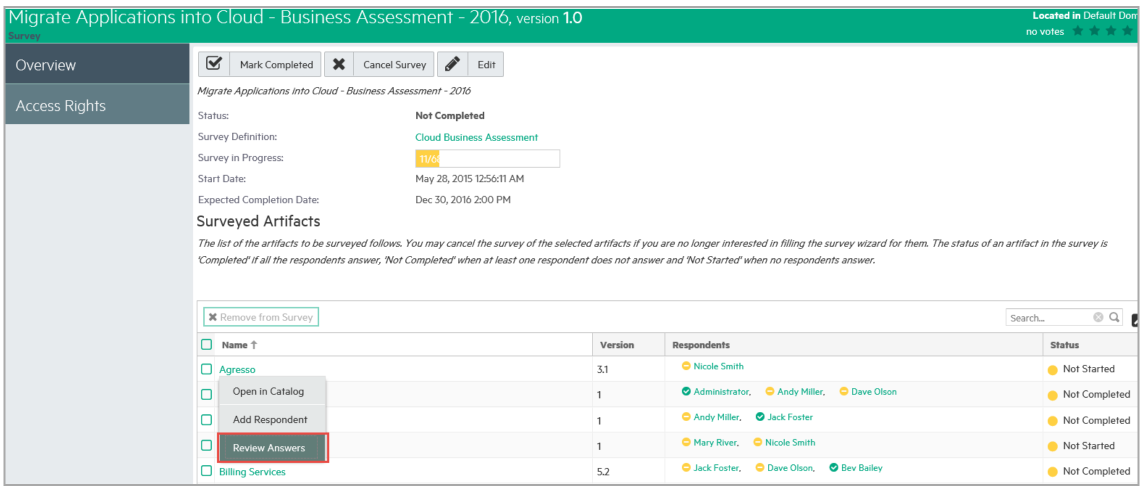


Reviewing Answers

Once you complete a survey, you can review your answers and even redo the survey.

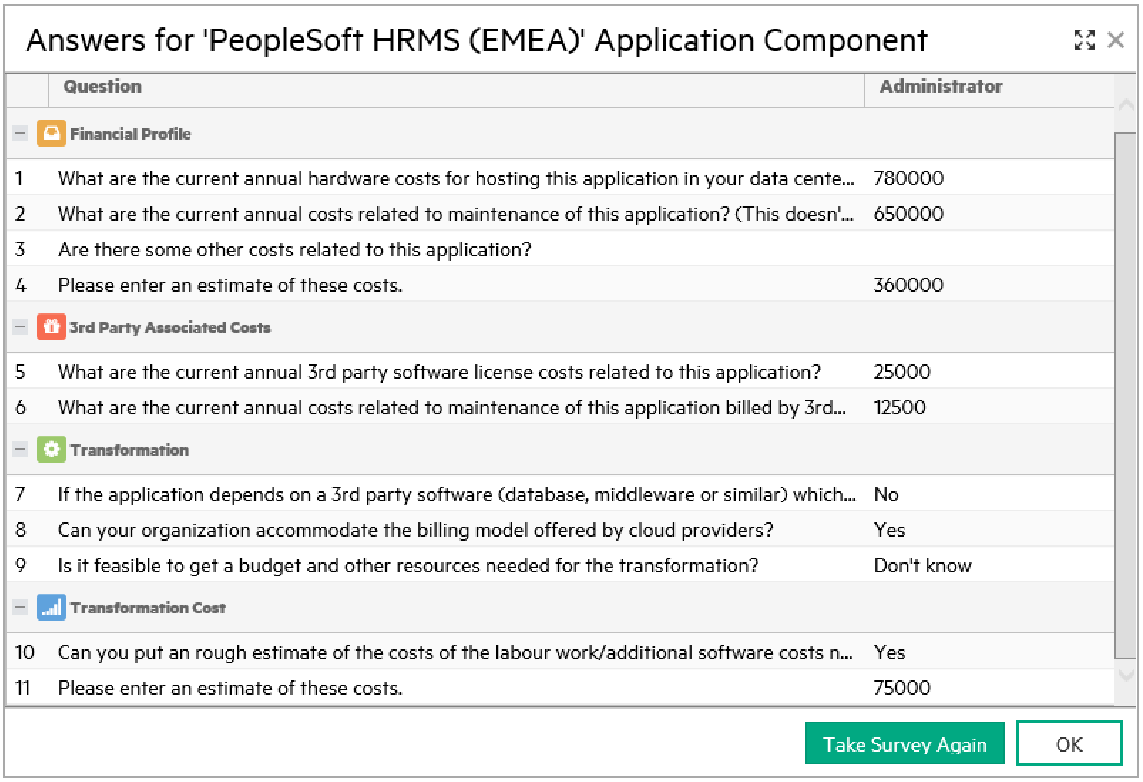
Review Survey:

- Open the survey instance
- Click the surveyed artifact you wish to review the answers for
- Select **Review Answers**



Redo the Survey:

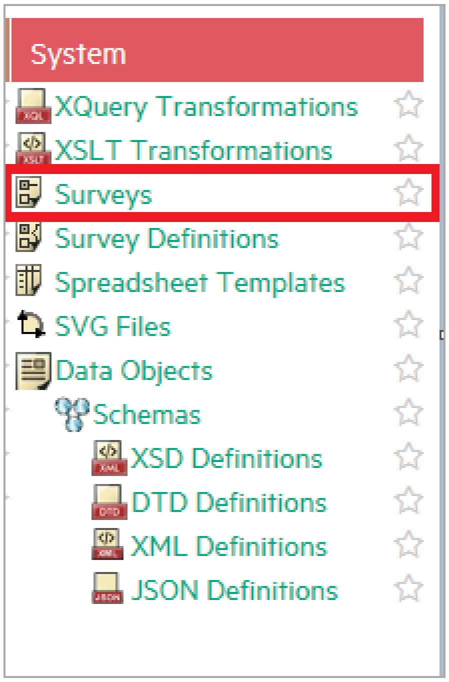
- As one of the respondents, it is possible for you to redo the entire survey (assuming you have responded before) in the review dialog. Click **Take Survey Again**.



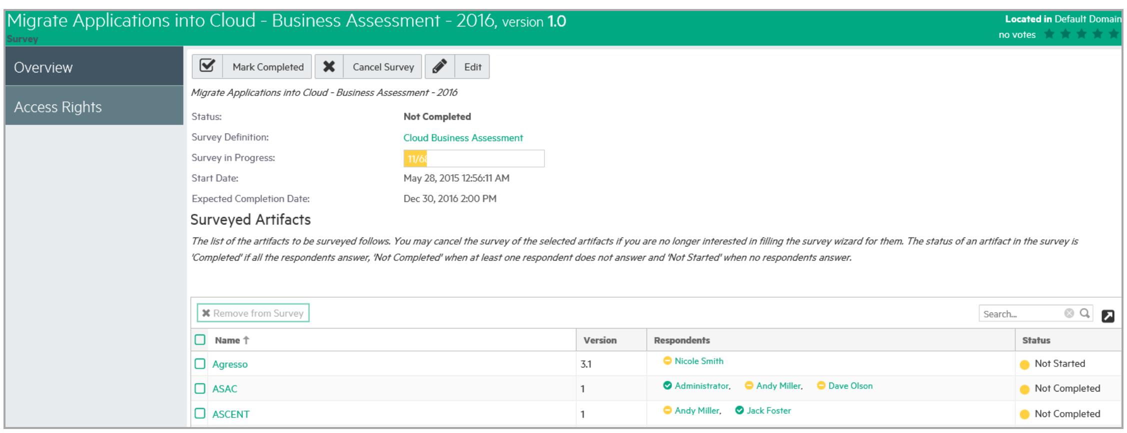
Monitoring and Managing Survey

To monitor or manage surveys :

1. Open Catalog Browser and click **Surveys** under Content tab.



2. Select a Survey to monitor or manage. The Survey view page opens as follows:



3. As per your role, you can execute all or some functions in the Survey view page. For instance :
   - Provider can only view the status and progress of the survey.
   - Survey Manager and Administrator can additionally :
     - Mark the survey as Completed.
     - Cancel the survey.
     - Remove artifacts from the survey if not completed.

- Edit survey information such as Description and Expected Completion Date.
- Add or Remove respondent to and from the survey.

Chapter 10: Collaboration

HPE Systinet is a collaborative platform enabling you to actively participate and provide information to other users throughout the service lifecycle.

HPE Systinet provides the following collaboration features:

- **Comments**

  The Artifact View page provides a Discussion area where you can start threads and respond to other comments. For details, see "How to Use Comments" on the next page.

- **Notifications**

  You can send e-mail notifications about an artifact to specified stakeholders. For details, see "How to Use Notifications" on page 146.

- **Events**

  Events keep you up-to-date with changes to artifacts that you are a stakeholder in and user actions that may impact you. For details, see "How to Use Events" on page 148.

- **Tasks**

  Tasks provide you with updates for lifecycle and contract tasks assigned to you. For details, see "How to Use Tasks" on page 150.

- **Ratings**

  You can apply an individual rating to an artifact, contributing to an overall rating that enables other users to select the best artifacts. For details, see "How to Use Ratings" on page 151.

- **Feeds**

  HPE Systinet provides artifact and search feeds that enable you to track changes and discussions about artifacts in your feed readers and in the Reports tab. For details, see "How to Use Feeds" on page 152.

- **Sharing**

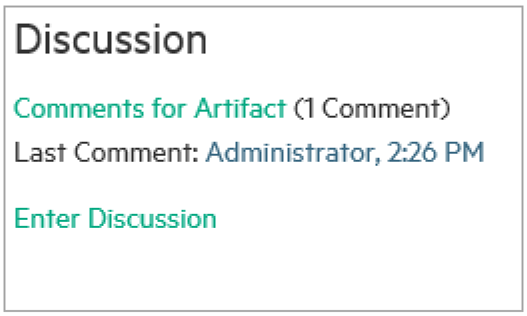
  HPE Systinet provides a simple action to provide all users with read access to an artifact, making it visible across the whole user-base. For details, see "How to Share Artifacts" on page 155.

HPE Systinet is also a collaborative platform in combination with your development environments. HPE Software provides plug-ins for widely used Integrated Development Environment (IDE) that enables the developers to collaborate using the discovery and publishing features of HPE Systinet directly from their IDE.

How to Use Comments

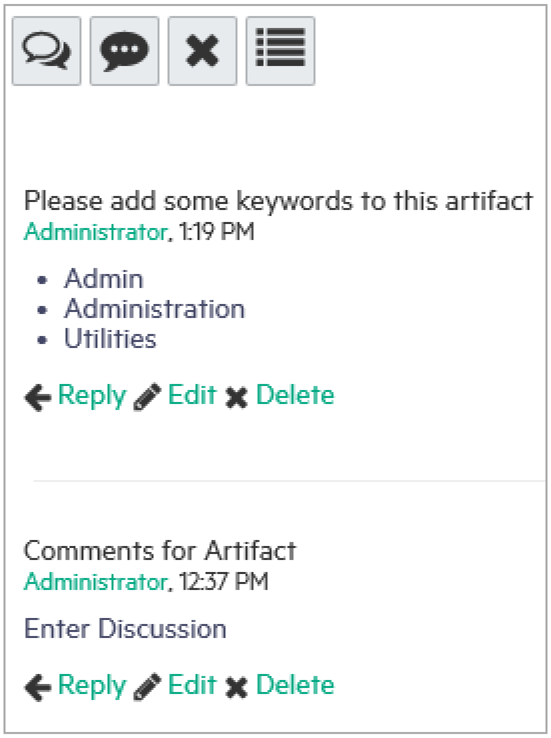
HPE Systinet provides an artifact discussion forum where you can make comments about particular artifacts.

The Artifact Overview page includes a Discussion component right at the bottom showing the last few comments.



Click a thread title to enter that discussion or click *Enter Discussion* to open the **Documentation > Discussion** sub-tab to see all the comments.

You can browse all comments in the Artifact Details Discussion sub-tab.



You can organize the Artifact View Discussion sub-tab using **Show Thread** and **Show List** with an option to sort the list view by oldest or newest comment first.

Start a new discussion thread using **Add Comment**.

> **Tip:** In the Add Comment dialog, click + to provide a reference link to another artifact in your comment.

Click **Reply** to respond to a particular comment.

If these are no replies to your thread or comment, you can **Edit** or **Delete** your comments.

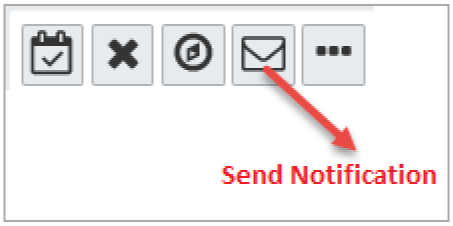
The Artifact Comments Feed context action provides a URL that you can use in feed readers or in the Reports Tab to keep up-to-date with any new comments about the artifact. For details, see "How to Use Feeds" on page 152.

How to Use Notifications

HPE Systinet enables you to send e-mail notifications to artifact stakeholders.

To Send Manual Notifications:

1. In the Overview tab of Artifact view page, click the **Send Message** context action for the artifact you want to send the notification for, to open the Send a Message page.

2. Select the recipients to notify.

   Notification Recipients

Recipient	Description
Owner	The user, group, or role that owns the artifact.
Maintainers	Users, groups, and roles groups with write permission for the artifact.
Contacts	Users and organizational units associated with the artifact by the contact relationship or listed in the artifact stakeholder property. The Contacts recipient group can be refined into selectable contact roles.
Other Recipients	Click **Add Other Recipients** and use the user, group, and role search feature to add any other required recipients.
Previous Stakeholders	Expand **Show Advanced Options** and select **Include Recipients from Previous Versions** to notify stakeholders from previous versions of the artifact about changes to a newer version. The stakeholders notified by this option match those of the current artifact version. For example, if **Consumers** is selected, then the consumers of previous versions are notified.

   Note: The recipient options vary depending on the status of the artifact.

3. *Optional*: Change the subject for the mail if required.

4. *Optional*: Check **Lifecycle Status** to include a section containing current lifecycle status in the mail.

5. Enter the message text for the mail.

6. Click **Preview** to view a draft of the mail message.

7. Click **Send** to send the notification to the selected recipients.

The administrator can set up automatic notifications as part of the lifecycle process. For details, see *How to Define Automatic Actions* in the *HPE Systinet Administration Guide*.

How to Use Events

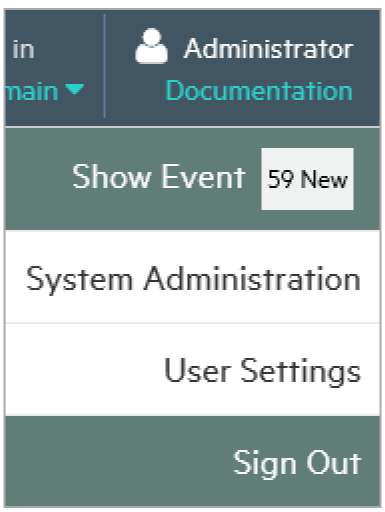
HPE Systinet keeps you up-to-date with all actions on artifacts that are relevant to you. Actions may appear in the Events lists because you have performed an operation on the artifact or because you are the owner of the affected artifact.

Events checker is disabled by default to keep up the server speed. However, the administrator can enable this checker by changing the value of `platform.ui.userevent.notificationsEnabled` system property to TRUE.

> **Caution:** Enabling `platform.ui.userevent.notificationsEnabled` system property can result in slow performance.

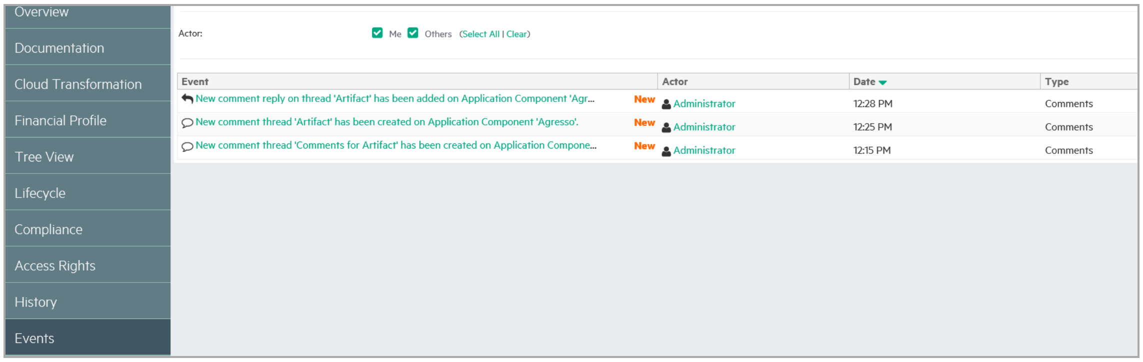
After enabling the event checker, events information appears in the following places in the UI:

- New Events notification in the Profile Status section of all pages.

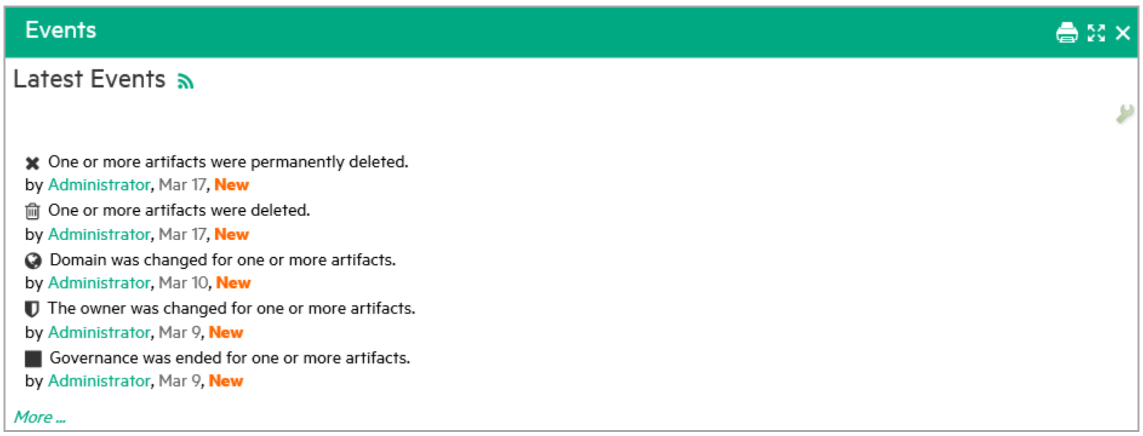


- Actions on individual artifacts displayed in the Artifact view page, Events tab.

  The Events components in the Overview tab of Artifact view page, displays the latest actions performed in HPE Systinet that are relevant to the user.



- Here, events component displays actions performed on the artifact with a **More...** link to the latest events under main menu Reports tab.

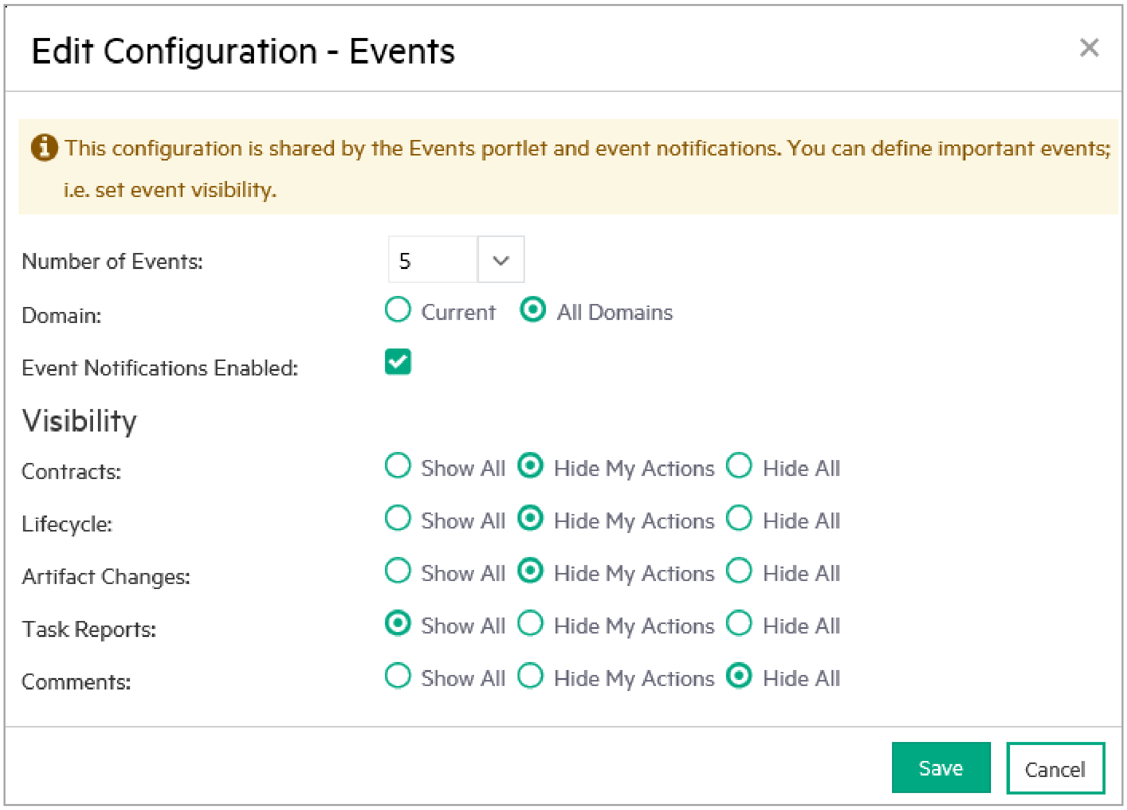


You can customize the information the Events component displays.

To Customize the Events Component:

1. Click the tool icon in the Events component on the home page to open the Edit Configuration - Events dialog box.

2. Customize the following events parameters:



3. Click **Save** to apply your changes.

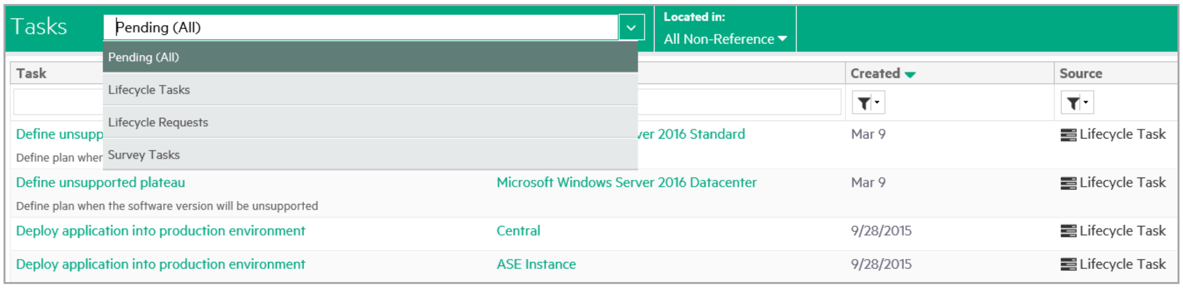
How to Use Tasks

As a user in HPE Systinet you may be required to perform actions related to contracts and the lifecycle of artifacts. Tasks may be assigned to you as an individual, a member of a group, as a user in a particular role, or because you are the owner of an artifact. The My Tasks component in the Catalog Homepage updates you with your latest tasks assignments.

Catalog Homepage My Tasks Component

Task assignments come from lifecycle or as a result of a contract request. Click the task name to open the relevant page to view the lifecycle.

To view all your outstanding tasks, click **My Tasks** to open the Tasks page.



The Tasks page shows more details about each tasks and enables you to sort them by type or filter to find a particular task or artifact.

In addition to viewing all tasks assigned to you, Artifact Details pages contains task information specific to the artifact in the My Tasks component.

The My Tasks component enables you to complete a lifecycle task to view its details.

For all the tasks displayed, click on the task to open the appropriate page to perform the required actions depending on the task type.

- **Lifecycle Tasks**

  Perform a task assigned to you, your group, or your role as part of a lifecycle process.

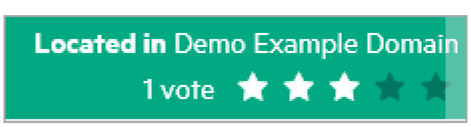
- **Lifecycle Requests**

  Process requests for approval of the completion of a lifecycle stage for artifacts.

How to Use Ratings

HPE Systinet enables you to apply a rating score to artifacts. You can rate each artifact and modify the existing rating.

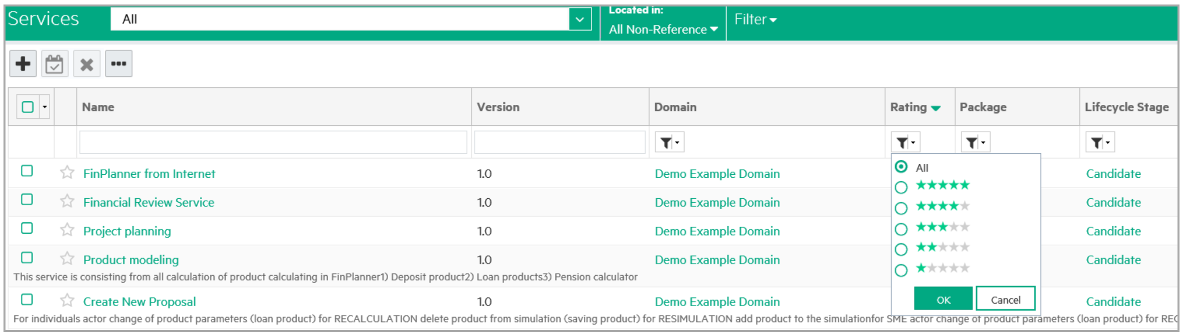
The average rating is available in Artifact Detail pages and in tables of artifacts, enabling you to choose services based on their collective rating.



To Rate an Artifact:

1. Open the Artifact view page.
2. Move the cursor over the stars and click a star to set your rating. The status next to the rating stars indicates the current status and indicates if you have previously rated the service.

Average ratings are available to filter and sort tables of artifacts. For details, see "Tables in the User Interface".



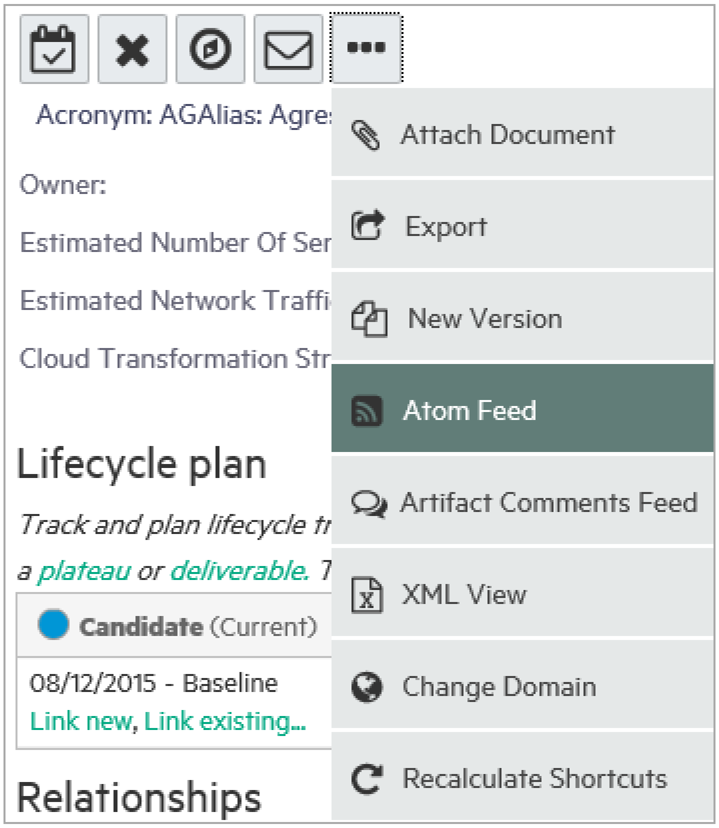
How to Use Feeds

HPE Systinet provides Atom feed support to enable you to track changes either with your own feed reader or using the Content Feed feature of the Reports Tab.

You can access the following feeds:

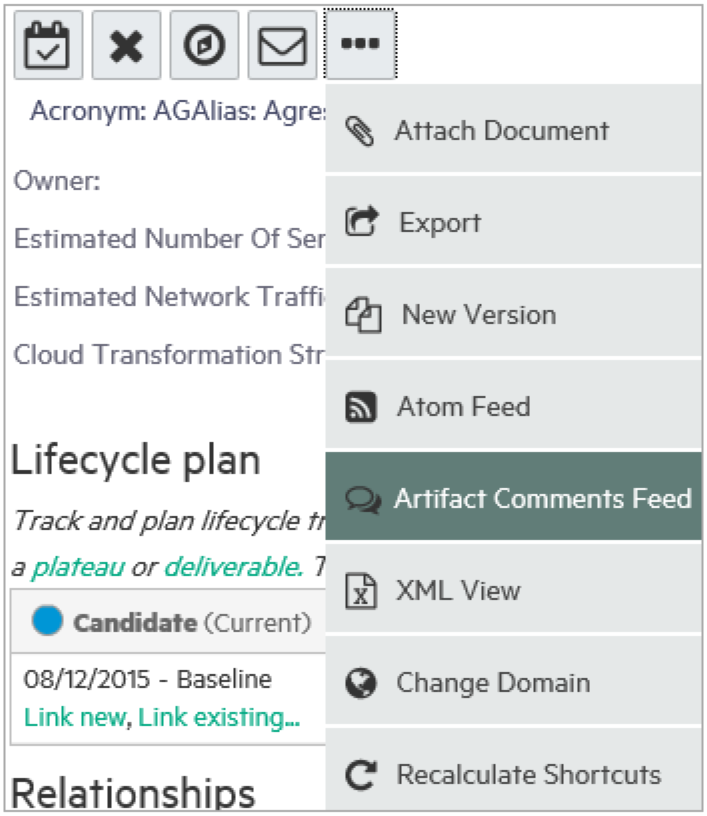
- **Artifact Feeds**

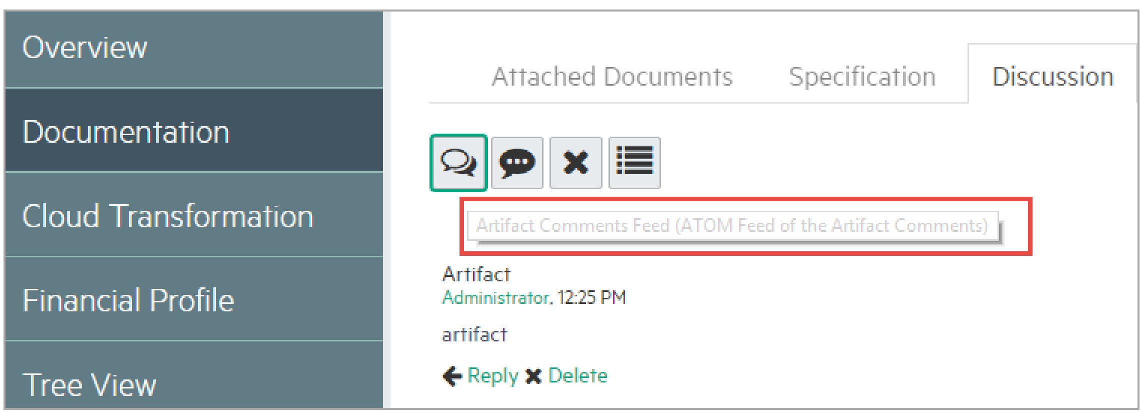
  Track changes to a specific artifact. Use the **Atom Feed** context action from the Overview tab of Artifact view page to obtain the URL for the feed.



- **Artifact Comment Feeds**

  Track the discussion about a particular artifact. Use the **Artifact Comments Feed** context action from the Overview tab of Artifact view page or the **Artifact Comments Feed** context action from the Artifact view page, Discussion section of the Documentation tab to obtain the URL for the feed.





- **Search Result Feeds**

  Use the Search URL provided with saved searches to create a custom search feed. For example, a search feed for all the services that would notify when a new service(s) is created.

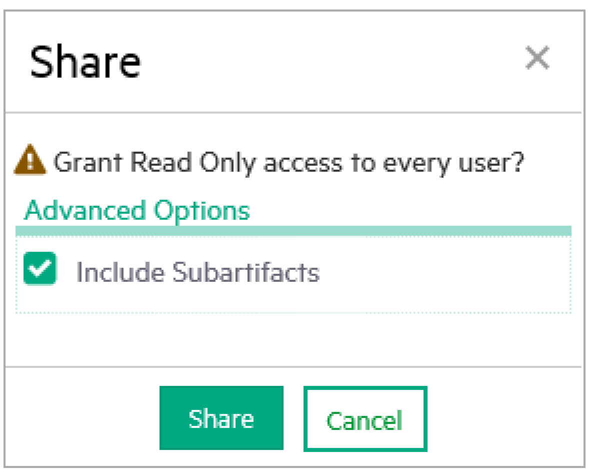
How to Share Artifacts

By default, because of default security settings and the catalog is separated into domains, the artifacts are visible only to the required users. However, you can change this setting and make the artifact visible to all users by a share mechanism. In this mechanism, the administrator or the owner of an artifact gives read access to an artifact, making it visible to everyone. You can share artifacts in a bulk. However, there are situations where you want to make an artifact visible to all users, for example, when a service goes into Production.

> **Note:** The default functionality of sharing uses the `system#registered` group which represents all users who access HPE Systinet. The administrator can change the users that can access shared artifacts. For details, see *How to Change the Sharing Principal* in the *Administration Guide*.

To Share an Artifact:

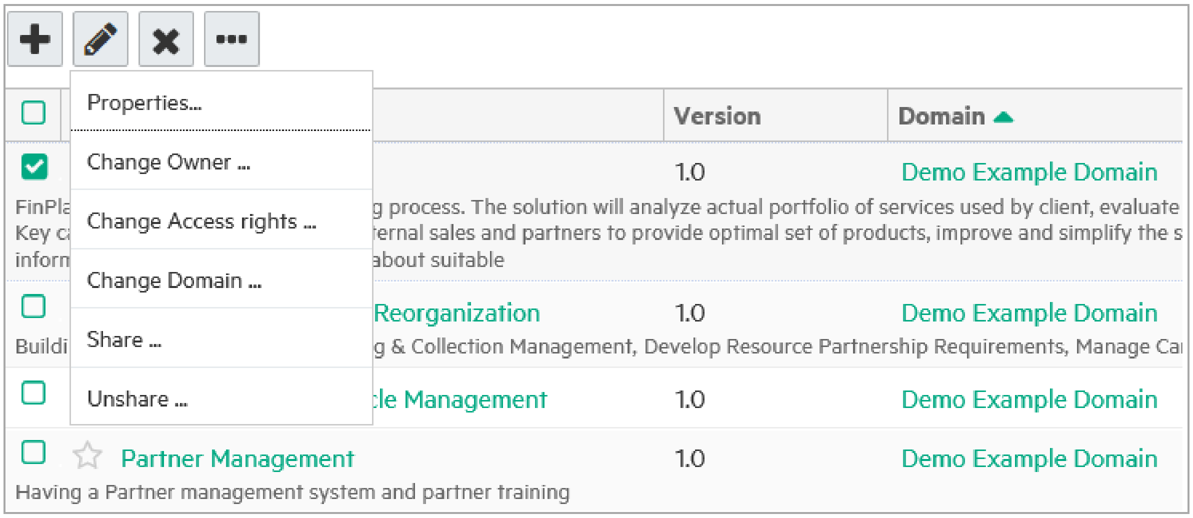
1. Open the Artifact view page for the artifact and select the Access Rights tab.
2. Click the **Share** context action to open the Share dialog box.
3. *Optional*: Expand **Advanced Options** and select **Include Subartifacts** to share sub-artifacts in the artifact aggregate.



4. Click **Share** to make the artifact visible to all users.

To Share a Set of Artifacts:

1. From the artifacts table, select all the artifacts you want to share, click **Edit** icon and then click **Share**. The Share dialog box is displayed.



2. *Optional*: Expand **Advanced Options** and select **Include Subartifacts** to share sub-artifacts in the artifact aggregates.

3. Click **Share** to make the selected artifacts visible to all users.

Chapter 11: Excel/CSV File Export and Import

HPE Systinet provides the capability to export and import data in spreadsheet formats. You can transfer spreadsheets or relational databases data from other systems to HPE Systinet. You can also edit multiple data sets efficiently in spreadsheet format in offline mode and upload the data back to Systinet.

The following operations are supported by Spreadsheet Import UI:

- Export an artifact collection to a CSV file.
- Export multiple artifact collections to a ZIP file. The ZIP file contains CSV files with collection of artifacts.
- Import an artifact collection from a CSV file.
- Import multiple artifact collections from an XLS or XLSX file.

> **Note:** Some operations are not available for Spreadsheet Import Command Line. For more details, see *CSV Import and Export Tools* in HPE Systinet *Customization Guide*.

To populate a simple collection from a spreadsheet file, create an artifact in the HPE Systinet collection by using the Catalog. Open the collection list, select the required artifacts and save as CSV to save the collection into a CSV file. You can then access this CSV file using a spreadsheet, such as excel, add more data or edit the collection and then import the CSV back to HPE Systinet.

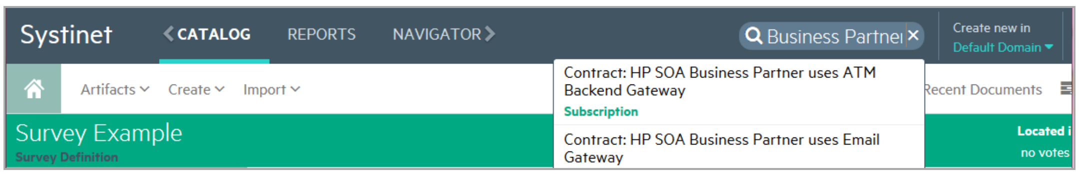
You can also store imported spreadsheet files as templates for future use. Following sections help you perform the following:

- "Exporting CSV Files" below
- "Importing Spreadsheet Files" on page 160
- "Managing Template" on page 163
- "Spreadsheet Template Options" on page 166

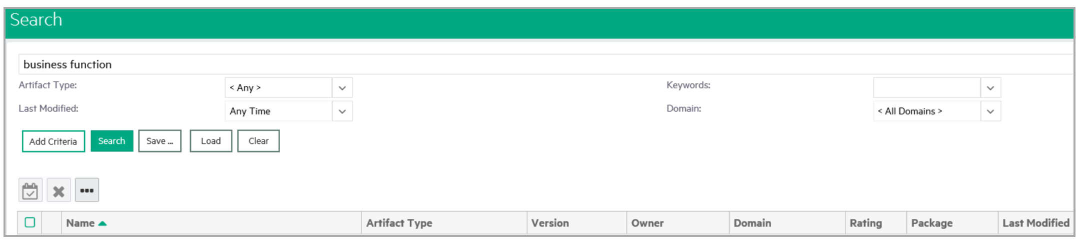
Exporting CSV Files

To export CSV data from HPE Systinet:

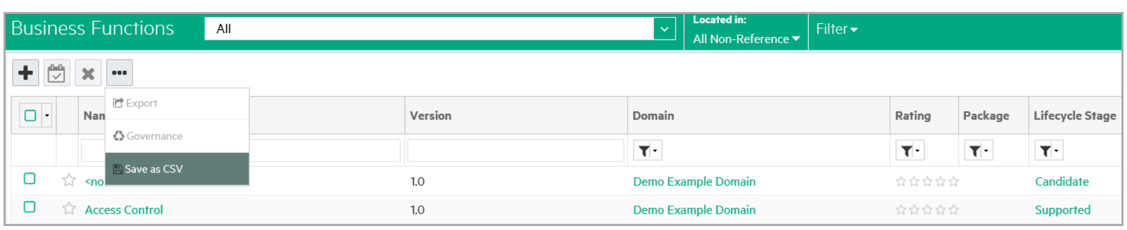
1. Open the Catalog in a browser.
2. If the collection you are interested in is empty, create the first artifact so that the exported CSV file contains an example data row.
3. Open the collection you are interested in either by searching for it in the Search box or by opening the collection from the Catalog panel. For example, to open the Business Function collection, select *Capabilities & Functions* from the Catalog panel list and perform your search by clicking the Filter menu to open the Search page. Then you can use the Business Function value from the Artifact Type selector and click Search.
   a. *Using the Menu Bar Search Field*



   b. *Using the Catalog Search Page*

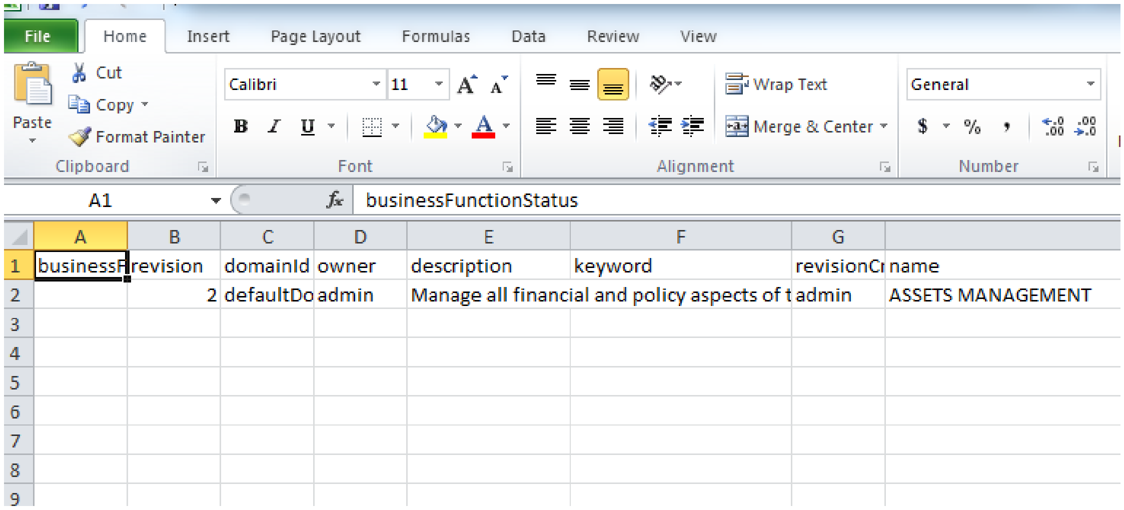


4. After you have located and opened the collection you are interested in exporting, click the three dots (more actions button) and click **Save as CSV**. This will start the download of data in CSV format from the table to your local computer.

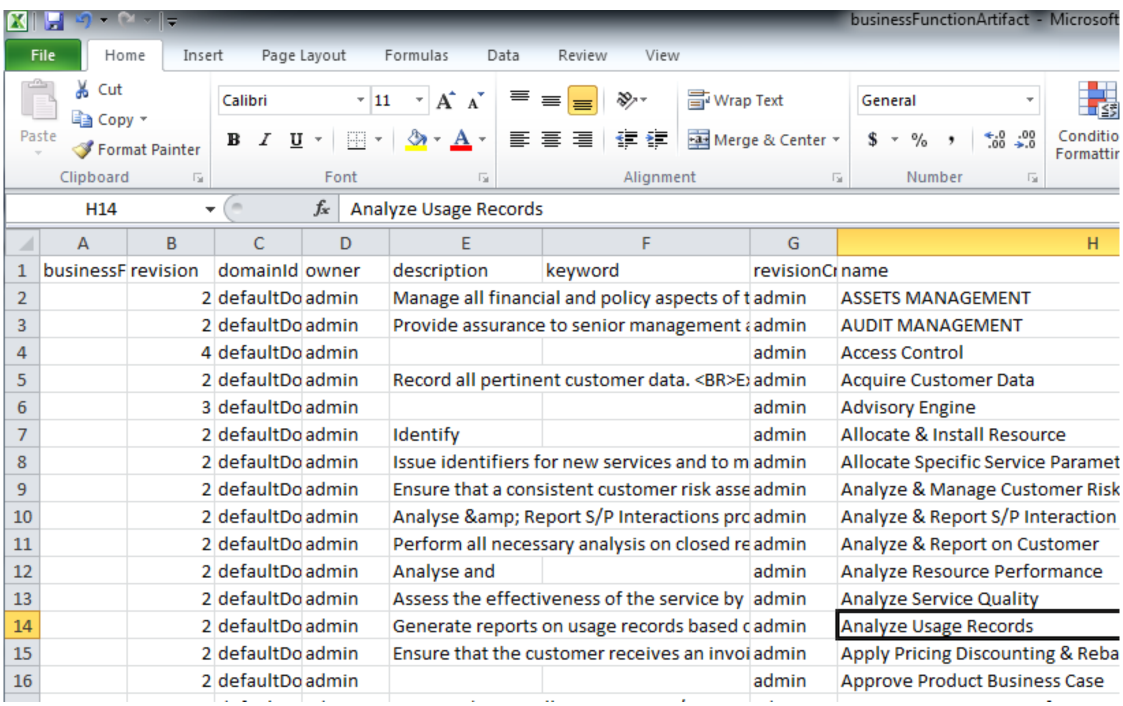


5. Open the downloaded CSV file in a spreadsheet editor, such as Excel. The first row is a header that specifies the mapping of data in HPE Systinet. It helps you to learn how to map the data in

specific columns to properties, relationships, etc.



6. Edit the data in the spreadsheet and save the file as CSV only. For example, you can delete few columns or modify the existing values and so on. You can now import this CSV into HPE Systinet.



Importing Spreadsheet Files

To import spreadsheet files, decide on the type of information and relationship data you want to import and how you view the results of the imported data mapped into HPE Systinet repository.

Preparing Spreadsheet Files

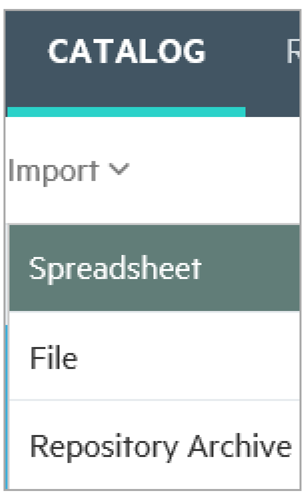
To import the spreadsheet files successfully, you must follow the HPE Systinet spreadsheet syntax. Do one of the following to obtain a valid spreadsheet file and then start adding data into it:

- Use *Download Template to Get Started* to download from a spreadsheet artifact. For more details, see the section *To download Excel/CSV Import Template* in "Managing Template" on page 163.
- Use *Save as CSV*. For more details see, "Exporting CSV Files" on page 157.
- See `SYSTINET_HOME/client/demo/import` folder to refer to examples of CSV and XLS/XLSX files. For example, for XLS/XLSX spreadsheet syntax, follow the path `SYSTINET_HOME/client/demo/import/excel/from-ui/*.xlsx`.

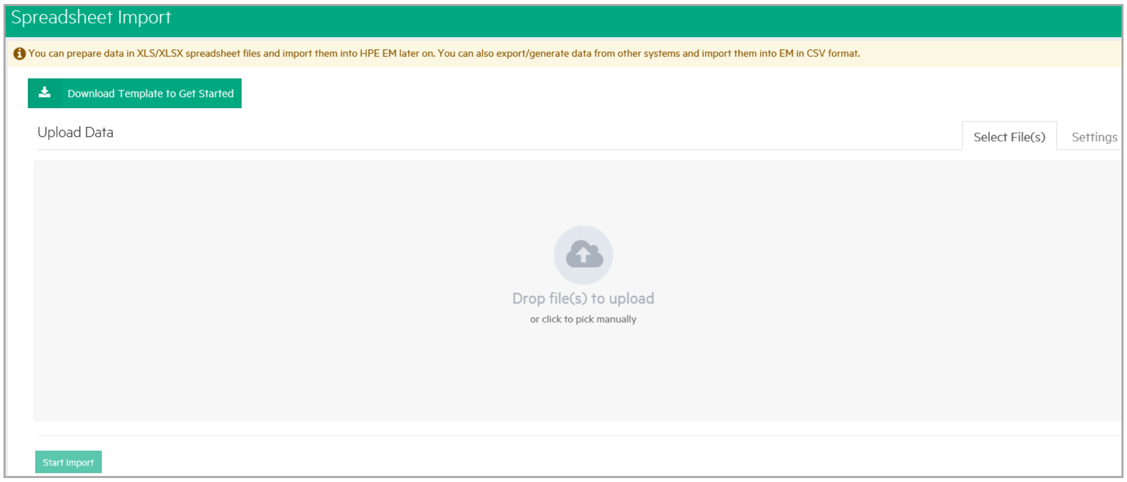
Using UI

To directly import the Excel/CSV file from the catalog UI, follow these streps:

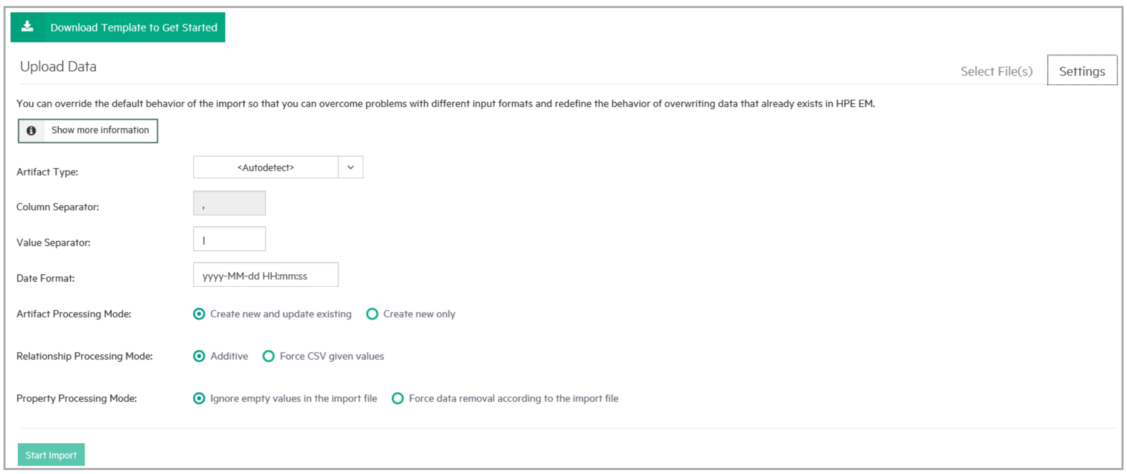
1. Go to the Catalog home page. Click the Import menu and select **Spreadsheet**.



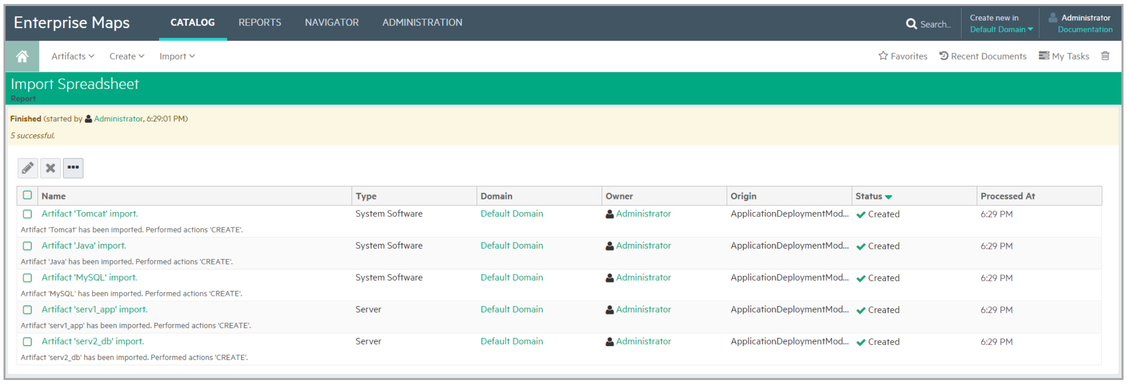
2. In the Spreadsheet Import page select the CSV/XLS/XLSX file to drag and drop from your local folder. Alternatively, click anywhere in the box to manually upload.



3. Click **Settings** to view more options and **Show More Information** button to view their usage.



4. Select the Artifact Type from the drop down list. If artifact type is <Autodetect>, the artifact type will be determined by CSV file names or Excel sheet names as follows:
   a. Matches artifact type in SDM. For example: *applicationComponentArtifact*
   b. Starts with artifact type in SDM and a dash (-). For example: *applicationComponentArtifact-sample*
5. Click **Start Import**.The Import Spreadsheet report is displayed.



Using Command Line

If you are an administrator or have administrator role privileges you will find the CSV Importer command line tool in the `SYSTINET_HOME\client` directory. If you are not an administrator, you can ask your administrator to archive the tool and share it with you so that you can access it.

To get the CSV Importer command line tool and be able to run it:

1. Unzip the archive and open a command-line shell and change to the `client/bin` directory. The tool depends on java 1.8, so make sure you have access to the java command at the PATH variable.
2. Call `csvimport.bat` or `csvimport.sh` to get help messages displaying the command-line options.
3. Type the command with at least host, user, password, sdmName and file parameters to your environment. For example: "`csvimport -host http://hpedemo/em -user admin -password changeit -file businessFunctions.csv –sdmName businessFunctionArtifact`"
4. The CSV import of Business Functions from CSV file starts. The tool will log all events related to the progress and status of the import.
5. When you refresh your browser, you can view the results imported into the HPE Systinet collection.

> **Note:** Importing a huge spreadsheet file may fail because of Out Of Memory error. To overcome this problem, increase the heap memory as below:
>
> - 2MB excel file - 100MB heap
> - 10MB excel file - 1.5GB heap

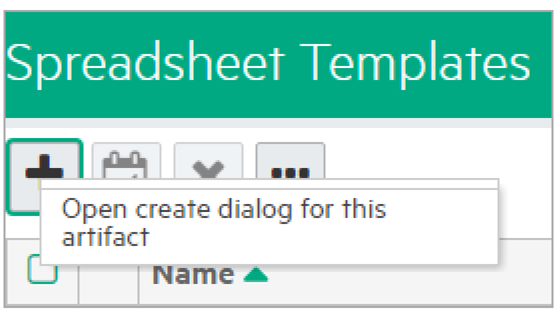
For more details, see *CSV Import Tool* in the *HPE Systinet Administration Guide*.

Managing Template

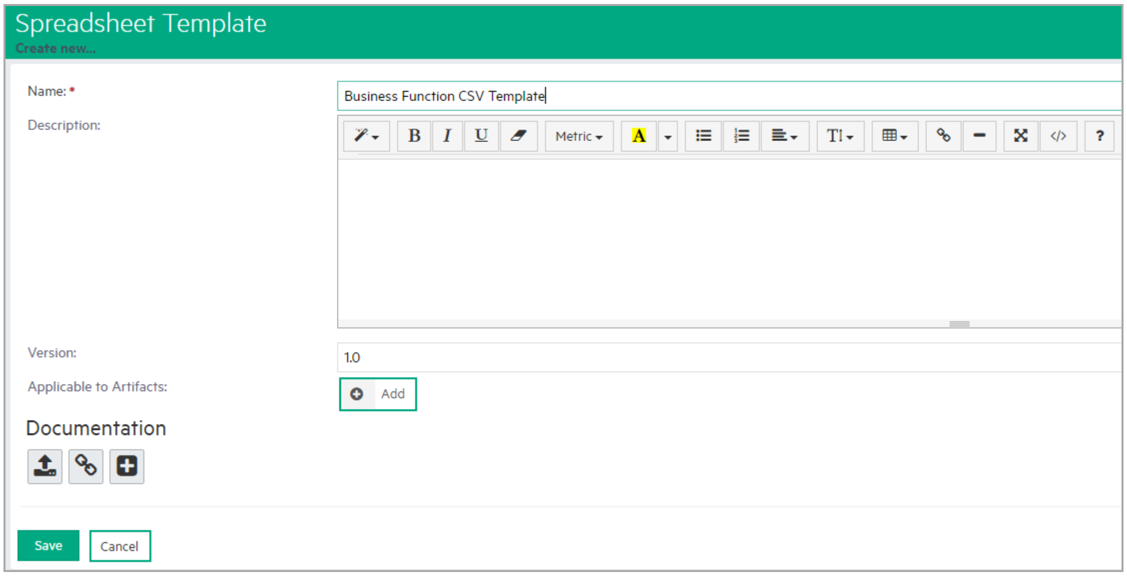
The Spreadsheet Templates provide the initial structure for data to be imported using Import Excel/CSV function. As a Catalog user, you can create such templates for your own usage or share with others. Administrator can change access rights for Excel/CSV Import Templates as with other artifacts.

To create a new Excel/CSV Import Template:

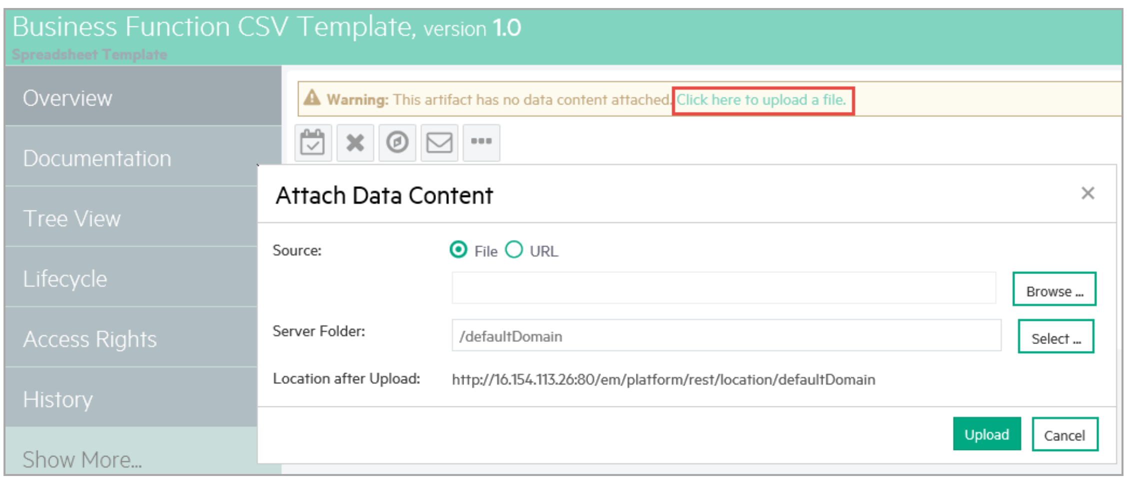
1. Open the Catalog Browser and then click **Spreadsheet Templates**. In the next screen click **Open create dialog for this artifact**.



2. Enter the name of the template and select the artifact types this template applies to in **Applicable to Artifacts** section and click **Save**.

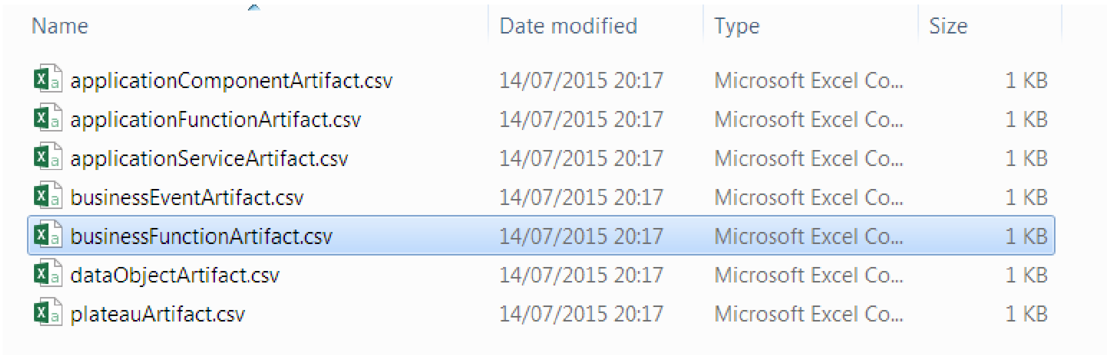


3. In the template view page, click **Click here to upload a file** link to add the Excel/CSV file for this template.

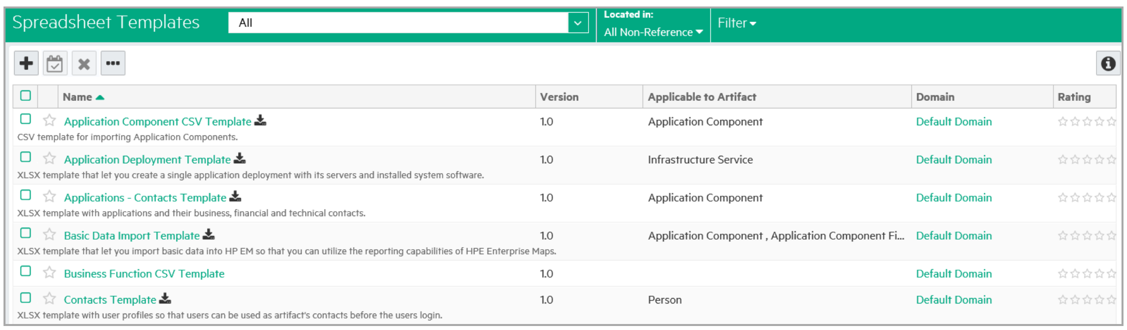


4. Click **Browse** and select the Excel or CSV template file and then click **Upload**.

> **Note:**
>
> - You can use 'Save as CSV' function in artifact collection or search pages to produce CSV files and use them as CSV templates. For details, see "Exporting CSV Files" on page 157.
> - To create Excel/CSV template manually (for example, using Microsoft Excel), refer to *CSV Import Tool* in *HPE Systinet Customization Guide* to get help on syntax for Excel/CSV files.



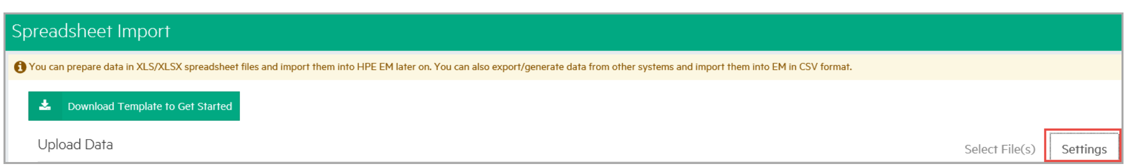
5. To verify the template created, open ‘Spreadsheet Templates’ collection and the newly created template is available in the list.



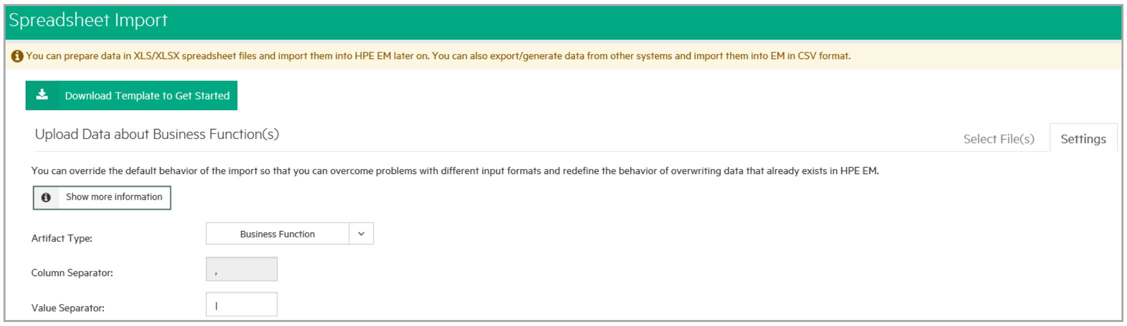
The Spreadsheet Import UI provides a convenient way to download the template of a specific artifact type.

To download Excel/CSV Import Template:

1. Go to **Import** tab, click **Spreadsheet** and then click the **Settings** tab.



2. Select an artifact type. The **Upload Data** is automatically changed to **Upload Data about...** to inform the selected artifact type for downloading template or uploading data.



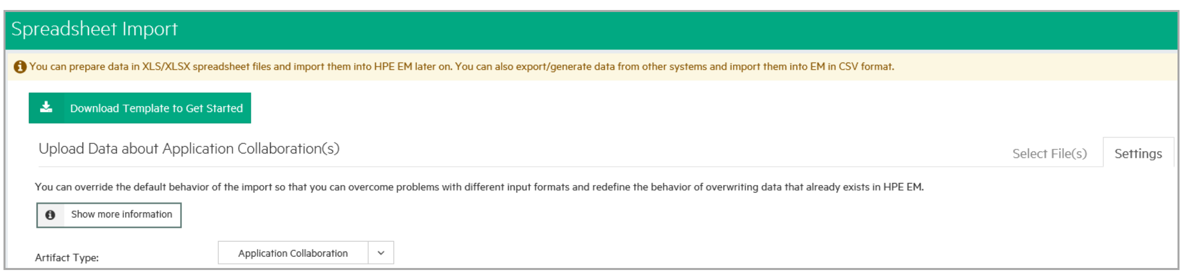
3. Click **Download Template to Get Started**. You can then add data into the saved template and import the Excel/CSV file back to Systinet to publish data.

Note:

- If such a template is not available, the template of higher-level artifact type, if exists, is used instead. An example of template hierarchy is as below:

  Artifact **>** Application Layer **>** Application Component **>** J2EE Application.

- If the template for J2EE Application does not exist, then template for Application Component is used and so on.
- In the case of no available templates, you are prompted to download a default template for Application Component (as in the image below).



Spreadsheet Template Options

While working with Excel templates, you may enter data which is non-importable. You can ignore such meta data by specifying instructions in the spreadsheet import function.

Add the following options at the beginning of the excel sheet:

Column 1 Keyword	Option Name	Option Parameters	Option Parameters	Description

Option	*ignore*			Ignore this sheet
Option	*sdmName*	<Artifact type in SDM>		Import data as this artifact type
Option	*skipRowWhenEmptyFirstCell*			Skip data row if first column is empty
Option	*constantColumn*	<Property in SDM>	<Property value>	Add this property for all imported artifacts

Ignored rows

- Rows before the header and the first column starting with capitalized text is ignored (except above 'Option' rows).
- Rows after the header and the first column that is empty are ignored if *Option skipRowWhenEmptyFirstCell* is set.

Ignored columns

- Columns with empty header are ignored.

<table>
<tr><th></th><th>A</th><th>B</th><th>C</th><th>D</th></tr>
<tr><td>1</td><td>Option</td><td>sdmName</td><td>applicationComponentArtifact</td><td></td></tr>
<tr><td>2</td><td>Option</td><td>constantColumn</td><td>description</td><td>Imported from spreadsheet</td></tr>
<tr><td>3</td><td>Option</td><td>skipRowWhenEmptyFirstCell</td><td></td><td></td></tr>
<tr><td>4</td><td>Option</td><td>calculateFormula</td><td>auto</td><td></td></tr>
<tr><td>5</td><td>Component Name</td><td>Version</td><td>Ignored</td><td>Subcomponents</td></tr>
<tr><td>6</td><td>name|key=true</td><td>version</td><td></td><td>composedOf|target=applicationComponentArtifact|property=name</td></tr>
<tr><td>7</td><td>Demo Component 1</td><td>1</td><td></td><td></td></tr>
<tr><td>8</td><td>Demo Component 2</td><td>3</td><td></td><td></td></tr>
<tr><td>9</td><td></td><td>This line is ignored because of the skipRowWhenEmptyFirstCell Option</td><td></td><td></td></tr>
<tr><td>10</td><td>Demo Composed Component</td><td>3</td><td></td><td>Demo Component 1|Demo Component 2</td></tr>
<tr><td>11</td><td></td><td></td><td></td><td></td></tr>
</table>

Appendix A: HTTP Status Codes

The following is the list of OOTB HTTP Status code:

HTTP Status Code	Name	Description
100	Continue	This means that the server has received the request headers, and that the client should proceed to send the request body.
101	Switching Protocols	This means the requester has asked the server to switch protocols and the server is acknowledging that it will do so.
102	Processing (WebDAV)	This code indicates that the server has received and is processing the request, but no response is available yet.This prevents the client from timing out and assuming the request was lost.
200	OK	Standard response for successful HTTP requests.
201	Created	The request has been fulfilled and resulted in a new resource being created.
202	Accepted	The request has been accepted for processing, but the processing has not been completed.
203	Non-Authoriatative Information	The server successfully processed the request, but is returning information that may be from another source.
204	No Content	The server successfully processed the request, but is not returning any content. Usually used as a response to a successful delete request.
205	Reset Content	The server successfully processed the request, but is not returning any content. Unlike a 204 response, this response requires that the requester reset the document view.
206	Partial Content	The server is delivering only part of the resource (byte serving) due to a range header sent by the client. The range header is used by tools like wget to enable resuming of interrupted downloads, or split a download into multiple simultaneous streams.
207	Multi-Status (WebDAV)	The message body that follows is an XML message and can contain a number of separate response codes, depending on how many sub-requests were made.
208	Already Reported (WebDAV)	The members of a DAV binding have already been enumerated in a previous reply to this request, and are not being included again.

HTTP Status Code	Name	Description
226	IM Used	The server has fulfilled a request for the resource, and the response is a representation of the result of one or more instance-manipulations applied to the current instance.
300	Multiple Choices	Indicates multiple options for the resource that the client may follow.
301	Moved Permanently	This and all future requests should be directed to the given URI.
302	Found	This is an example of industry practice contradicting the standard.
303	See Other	The response to the request can be found under another URI using a GET method.
304	Not Modified	Indicates that the resource has not been modified since the version specified by the request headers If-Modified-Since or If-None-Match.
305	Use Proxy	The requested resource is only available through a proxy, whose address is provided in the response.
306	Switch Proxy	No longer used. Originally meant "Subsequent requests should use the specified proxy".
307	Temporary Redirect	In this case, the request should be repeated with another URI; however, future requests should still use the original URI.
308	Permanent Redirect	The request, and all future requests should be repeated using another URI.
400	Bad Request	The server cannot or will not process the request due to something that is perceived to be a client error.
401	Unauthorized	Similar to 403 Forbidden below, but specifically for use when authentication is required and has failed or has not yet been provided.
402	Payment Required	Reserved for future use. The original intention was that this code might be used as part of some form of digital cash or micropayment scheme, but that has not happened, and this code is not usually used.
403	Forbidden	The request was a valid request, but the server is refusing to respond to it. Unlike a "401 Unauthorized" above response, authenticating will make no difference.
404	Not Found	The requested resource could not be found but may be available again in the future. Subsequent requests by the client are permissible.
405	Method Not Allowed	A request was made of a resource using a request method not supported by that resource; for example, using GET on a form which requires data to

HTTP Status Code	Name	Description
		be presented via POST, or using PUT on a read-only resource.
406	Not Acceptable	The requested resource is only capable of generating content not acceptable according to the Accept headers sent in the request.
407	Proxy Authentication Required	The client must first authenticate itself with the proxy.
408	Request Timeout	The server timed out waiting for the request.
409	Conflict	Indicates that the request could not be processed because of conflict in the request, such as an edit conflict in the case of multiple updates.
410	Gone	Indicates that the resource requested is no longer available and will not be available again.
411	Length Required	The request did not specify the length of its content, which is required by the requested resource.
412	Precondition Failed	The server does not meet one of the preconditions that the requester put on the request.
413	Request Entity Too Large	The request is larger than the server is willing or able to process.
414	Request-URI Too Long	The URI provided was too long for the server to process.
415	Unsupported Media Type	The request entity has a media type which the server or resource does not support.
416	Requested Range Not Satisfiable	The client has asked for a portion of the file (byte serving), but the server cannot supply that portion.
417	Exception Failed	The server cannot meet the requirements of the Expect request-header field.
418	I'm a Teapot	This code was defined in 1998 as one of the traditional and is not expected to be implemented by actual HTTP servers.
419	Authentication Timeout	Not a part of the HTTP standard, 419 Authentication Timeout denotes that previously valid authentication has expired.
420	Enhance Your Clam (Twitter)	Not part of the HTTP standard, but returned by version 1 of the Twitter Search and Trends API when the client is being rate limited.

HTTP Status Code	Name	Description
422	Unprocessable Entity (WebDAV)	The request was well-formed but was unable to be followed due to semantic errors.
423	Locked (WebDAV)	The resource that is being accessed is locked.
424	Failed Dependency (WebDAV)	The request failed due to failure of a previous request.
426	Upgrade Required	The client should switch to a different protocol such as TLS/1.0, given in the Upgrade header field.
428	Precondition Required	The origin server requires the request to be conditional.
429	Too Many Request	The user has sent too many requests in a given amount of time.
431	Request Header Fields Too Large	The server is unwilling to process the request because either an individual header field, or all the header fields collectively, are too large.
440	Login Timeout (Microsoft)	A Microsoft extension. Indicates that your session has expired.
444	No Response (Nginx)	Used in Nginx logs to indicate that the server has returned no information to the client and closed the connection.
449	Retry With (Microsoft)	A Microsoft extension. The request should be retried after performing the appropriate action.
450	Blocked by Windows Parental Controls (Microsoft)	A Microsoft extension. This error is given when Windows Parental Controls are turned on and are blocking access to the given webpage.
451	Redirect (Microsoft)	Used in Exchange ActiveSync if there either is a more efficient server to use or the server cannot access the users' mailbox.
494	Request Header Too Large (Nginx)	Nginx internal code similar to 431 but it was introduced earlier in version 0.9.4 (on January 21, 2011).
495	Cert Error (Nginx)	Nginx internal code used when SSL client certificate error occurred to distinguish it from 4XX in a log and an error page redirection.

HTTP Status Code	Name	Description
496	No Cert (Nginx)	Nginx internal code used when client didn't provide certificate to distinguish it from 4XX in a log and an error page redirection.
497	HTTP to HTTPS (Nginx)	Nginx internal code used for the plain HTTP requests that are sent to HTTPS port to distinguish it from 4XX in a log and an error page redirection.
498	Token expired/invalid (Esri)	Returned by ArcGIS for Server. A code of 498 indicates an expired or otherwise invalid token.
499	Client Closed Rrrrrquest (Nginx)	Used in Nginx logs to indicate when the connection has been closed by client while the server is still processing its request, making server unable to send a status code back.
499	Token Required (Esri)	Returned by ArcGIS for Server. A code of 499 indicates that a token is required (if no token was submitted).
500	Internal Server Error	A generic error message, given when an unexpected condition was encountered and no more specific message is suitable.
501	Not Implemented	The server either does not recognize the request method, or it lacks the ability to fulfill the request.
502	Bad Gateway	The server was acting as a gateway or proxy and received an invalid response from the upstream server.
503	Service Unavailable	The server is currently unavailable (because it is overloaded or down for maintenance). Generally, this is a temporary state.
504	Gateway Timeout	The server was acting as a gateway or proxy and did not receive a timely response from the upstream server.
505	HTTP Version Not Supported	The server does not support the HTTP protocol version used in the request.
506	Variant Also Negotiates	Transparent content negotiation for the request results in a circular reference.
507	Insufficient Storage (WebDAV)	The server is unable to store the representation needed to complete the request.
508	Loop Detected (WebDAV)	The server detected an infinite loop while processing the request.
509	Bandwidth Limit Exceeded	This status code lis not specified in any RFCs. Its use is unknown.

HTTP Status Code	Name	Description
510	Not Extended	Further extensions to the request are required for the server to fulfill it.
511	Network Authentication Required	The client needs to authenticate to gain network access. Intended for use by intercepting proxies used to control access to the network.
598	Network read timeout error	This status code is not specified in any RFCs, but is used by Microsoft HTTP proxies to signal a network read timeout behind the proxy to a client in front of the proxy.
599	Network connect timeout error	This status code is not specified in any RFCs, but is used by Microsoft HTTP proxies to signal a network connect timeout behind the proxy to a client in front of the proxy.

Appendix B: HTTP Headers

The following is the list of HTTP headers:

Header Name	Header Value
Accept	application/json, application/xml;q=0.1
Accept-Language	cz, en;q=0.8
Cache-Control	private, no-cache
Content-Language	en
Content-Type	application/xml
Content-Type	multipart/form-data
Content-Type	application/json
Content-Type	application/x-www-form-urlencoded
Content-Type	text/plain
Content-Type	*/*