

# HP Service Manager

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For the supported Windows® and UNIX® operating systems

## Configuration Management help topics for printing

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be present in this PDF version. Those topics can be successfully printed from within the online help.

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# Configuration Management user roles

The Configuration Management module has the following user roles:

- ["Configuration Manager" below](#)
- ["Configuration Administrator" on page 13](#)
- ["Configuration Auditor" on page 15](#)
- ["CMS and Tools Administrator" on page 17](#)

## Configuration Manager

The Configuration Manager user role has the following responsibilities:

- Manage the Configuration Management Plan and Policies

To execute this role, the Configuration Manager has the following tasks available.

**Note:** For an overview of how these tasks fit in the Configuration Management workflow, see ["Configuration Management user tasks" on page 18](#).

ITIL workflow	Task
<a href="#">"Configuration management and planning (ST 3.1)" on page 20</a>	<ul style="list-style-type: none"><li>• <a href="#">"Evaluate the need for a Configuration Management System (CMS) data model update" on page 21</a></li></ul>
<a href="#">"Configuration identification (ST 3.2)" on page 27</a>	<ul style="list-style-type: none"><li>• None</li></ul>
<a href="#">"Configuration control (ST 3.3)" on page 32</a>	<ul style="list-style-type: none"><li>• <a href="#">"Plan CI relationship changes from a change record" on page 34</a></li></ul>
<a href="#">"Configuration status accounting and reporting (ST 3.4)" on page 36</a>	<ul style="list-style-type: none"><li>• None</li></ul>
<a href="#">"Configuration verification and audit (ST 3.5)" on page 39</a>	<ul style="list-style-type: none"><li>• None</li></ul>

ITIL workflow	Task
<a href="#">"Manage master data (ST 3.6)" on page 41</a>	<ul style="list-style-type: none"> <li>• None</li> </ul>
Others	<ul style="list-style-type: none"> <li>• <a href="#">"Associate a configuration item (CI) to a baseline" on page 79</a></li> <li>• <a href="#">"Associate multiple configuration items (CIs) to a baseline" on page 80</a></li> <li>• <a href="#">"Determine if a configuration item (CI) is in compliance with its baseline" on page 81</a></li> <li>• <a href="#">"View all configuration items (CIs) out of compliance with a baseline" on page 82</a></li> <li>• <a href="#">"Create a configuration item group" on page 91</a></li> <li>• <a href="#">"Edit a configuration item group" on page 85</a></li> <li>• <a href="#">"View the members of a configuration item group" on page 92</a></li> <li>• <a href="#">"View associated configuration item groups" on page 92</a></li> <li>• <a href="#">"Add a business service CI record" on page 89</a></li> <li>• <a href="#">"Update a business services CI record" on page 90</a></li> <li>• <a href="#">"View related records for a business service CI record" on page 90</a></li> <li>• <a href="#">"Create a configuration item group" on page 91</a></li> <li>• <a href="#">"View associated configuration item groups" on page 92</a></li> <li>• <a href="#">"View the actual state of a configuration item" on page 66</a></li> <li>• <a href="#">"View scheduled maintenance for a configuration item" on page 48</a></li> <li>• <a href="#">"Administer subscriptions" on page 64</a></li> <li>• <a href="#">"Print a visualization diagram" on page 140</a></li> <li>• <a href="#">"Launch configuration item (CI) Visualization directly from Configuration Management" on page 145</a></li> </ul>

ITIL workflow	Task
	<ul style="list-style-type: none"> <li>• <a href="#">"View the details of a configuration item (CI) in CI Visualization" on page 148</a></li> <li>• <a href="#">"Expand a node group to view individual configuration items (CIs)" on page 155</a></li> </ul>

## Configuration Administrator

The Configuration Administrator user role has the following responsibilities:

- Based on successful implemented change, assess current Configuration Items (CIs) and adjust CI details if required.
- Create new CIs if allowed and register all required information.
- Label new CIs and relate CIs to contracts.
- Periodically (or on request) generate status reports and distribute to stakeholders.

To execute this role, the Configuration Administrator has the following tasks available.

**Note:** For an overview of how these tasks fit in the Configuration Management workflow, see ["Configuration Management user tasks" on page 18](#).

ITIL workflow	Task
<a href="#">"Configuration management and planning (ST 3.1)" on page 20</a>	<ul style="list-style-type: none"> <li>• <a href="#">"Update Configuration Management policies" on page 22</a></li> <li>• <a href="#">"Modify a configuration item (CI) type" on page 24</a></li> </ul>
<a href="#">"Configuration identification (ST 3.2)" on page 27</a>	<ul style="list-style-type: none"> <li>• <a href="#">"Validate a configuration creation change task" on page 27</a></li> <li>• <a href="#">"Create a new model" on page 29</a></li> <li>• <a href="#">"Create a new configuration item (CI)" on page 30</a></li> </ul>
<a href="#">"Configuration control (ST 3.3)" on page 32</a>	<ul style="list-style-type: none"> <li>• <a href="#">"Modify a configuration item" on page 33</a></li> <li>• <a href="#">"Plan CI relationship changes from a change record" on page 34</a></li> </ul>

ITIL workflow	Task
"Configuration status accounting and reporting (ST 3.4)" on page 36	<ul style="list-style-type: none"> <li>• "Create a new configuration report" on page 38</li> <li>• Run a standard configuration report</li> </ul>
"Configuration verification and audit (ST 3.5)" on page 39	<ul style="list-style-type: none"> <li>• None</li> </ul>
"Manage master data (ST 3.6)" on page 41	<ul style="list-style-type: none"> <li>• "Validate data sets" on page 44</li> <li>• "Update a master data record" on page 45</li> <li>• "Delete a master data record" on page 46</li> <li>• "Check related configurations" on page 47</li> </ul>
Others	<ul style="list-style-type: none"> <li>• "Associate a configuration item (CI) to a baseline" on page 79</li> <li>• "Associate multiple configuration items (CIs) to a baseline" on page 80</li> <li>• "Determine if a configuration item (CI) is in compliance with its baseline" on page 81</li> <li>• "View all configuration items (CIs) out of compliance with a baseline" on page 82</li> <li>• "Edit a configuration item group" on page 85</li> <li>• "View the members of a configuration item group" on page 92</li> <li>• "Add a business service CI record" on page 89</li> <li>• "Update a business services CI record" on page 90</li> <li>• "View related records for a business service CI record" on page 90</li> <li>• "Create a configuration item group" on page 91</li> <li>• "View associated configuration item groups" on page 92</li> <li>• "View the actual state of a configuration item" on page 66</li> <li>• "View scheduled maintenance for a configuration item" on page 48</li> </ul>

ITIL workflow	Task
	<ul style="list-style-type: none"> <li>• <a href="#">"Add a software installation model to the catalog" on page 130</a></li> <li>• <a href="#">"Add a software license model to the catalog" on page 131</a></li> <li>• <a href="#">"Create a software license configuration item (CI)" on page 133</a></li> <li>• <a href="#">"Print a visualization diagram" on page 140</a></li> <li>• <a href="#">"Launch configuration item (CI) Visualization directly from Configuration Management" on page 145</a></li> <li>• <a href="#">"View the details of a configuration item (CI) in CI Visualization" on page 148</a></li> <li>• <a href="#">"Expand a node group to view individual configuration items (CIs)" on page 155</a></li> </ul>

## Configuration Auditor

The Configuration Auditor user role has the following responsibilities:

- Review and validate CMS updates and create exception reports if needed.
- Conduct configuration audits and perform appropriate actions if an unregistered component is detected or if a component is missing.

To execute this role, the Configuration Auditor has the following tasks available.

**Note:** For an overview of how these tasks fit in the Configuration Management workflow, see ["Configuration Management user tasks" on page 18](#).

ITIL workflow	Task
<a href="#">"Configuration management and planning (ST 3.1)" on page 20</a>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<a href="#">"Configuration identification (ST 3.2)" on page 27</a>	<ul style="list-style-type: none"> <li>• None</li> </ul>

ITIL workflow	Task
"Configuration control (ST 3.3)" on page 32	<ul style="list-style-type: none"> <li>• "Plan CI relationship changes from a change record" on page 34</li> </ul>
"Configuration status accounting and reporting (ST 3.4)" on page 36	<ul style="list-style-type: none"> <li>• "Review a modification to a configuration item" on page 37</li> </ul>
"Configuration verification and audit (ST 3.5)" on page 39	<ul style="list-style-type: none"> <li>• "Conduct a configuration audit" on page 40</li> </ul>
"Manage master data (ST 3.6)" on page 41	<ul style="list-style-type: none"> <li>• None</li> </ul>
Others	<ul style="list-style-type: none"> <li>• "Create a configuration item group" on page 91</li> <li>• "Edit a configuration item group" on page 85</li> <li>• "View the members of a configuration item group" on page 92</li> <li>• "View associated configuration item groups" on page 92</li> <li>• "Add a business service CI record" on page 89</li> <li>• "Update a business services CI record" on page 90</li> <li>• "View related records for a business service CI record" on page 90</li> <li>• "Create a configuration item group" on page 91</li> <li>• "View associated configuration item groups" on page 92</li> <li>• "View the actual state of a configuration item" on page 66</li> <li>• "View scheduled maintenance for a configuration item" on page 48</li> <li>• "Print a visualization diagram" on page 140</li> <li>• "Launch configuration item (CI) Visualization directly from Configuration Management" on page 145</li> <li>• "View the details of a configuration item (CI) in CI Visualization" on page 148</li> </ul>



ITIL workflow	Task
	<ul style="list-style-type: none"><li>• <a href="#">"Expand a node group to view individual configuration items (CIs)" on page 155</a></li></ul>

## CMS and Tools Administrator

The CMS/Tools Administrator user role has the following responsibilities:

- Configure the data model, policies, and CI types in the service management tool

To execute this role, the CMS/Tools Administrator has following tasks available.

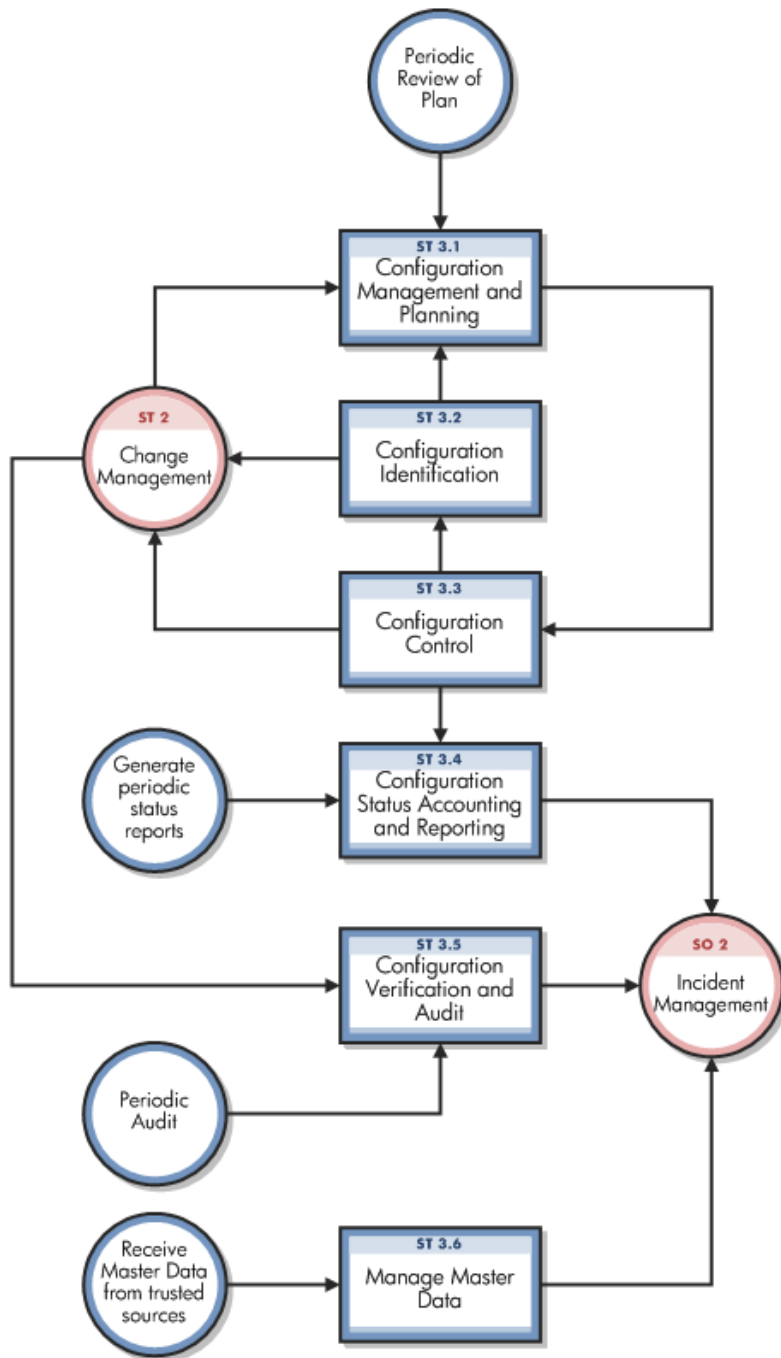
**Note:** For an overview of how these tasks fit in the Configuration Management workflow, see ["Configuration Management user tasks" on page 18](#).

ITIL workflow	Task
<a href="#">"Configuration management and planning (ST 3.1)" on page 20</a>	<ul style="list-style-type: none"><li>• <a href="#">"Update Configuration Management policies" on page 22</a></li><li>• <a href="#">"Create a new configuration item (CI) type" on page 23</a></li><li>• <a href="#">"Modify a configuration item (CI) type" on page 24</a></li></ul>
<a href="#">"Configuration identification (ST 3.2)" on page 27</a>	<ul style="list-style-type: none"><li>• None</li></ul>
<a href="#">"Configuration control (ST 3.3)" on page 32</a>	<ul style="list-style-type: none"><li>• None</li></ul>
<a href="#">"Configuration status accounting and reporting (ST 3.4)" on page 36</a>	<ul style="list-style-type: none"><li>• None</li></ul>
<a href="#">"Configuration verification and audit (ST 3.5)" on page 39</a>	<ul style="list-style-type: none"><li>• None</li></ul>
<a href="#">"Manage master data (ST 3.6)" on page 41</a>	<ul style="list-style-type: none"><li>• None</li></ul>

## Configuration Management user tasks

The Configuration Management process ensures that selected components of a complete IT service, system, or product (the configuration item) are identified, baselined, and maintained and those changes to them are controlled. It provides a configuration model of the services, assets, and infrastructure by recording the relationships between service assets and configuration items (CIs). It also ensures that releases into controlled environments and operational use are completed on the basis of formal approvals. It provides a configuration model of the services, assets, and infrastructure by recording the relationships between service assets and CIs.

## Configuration Management workflow

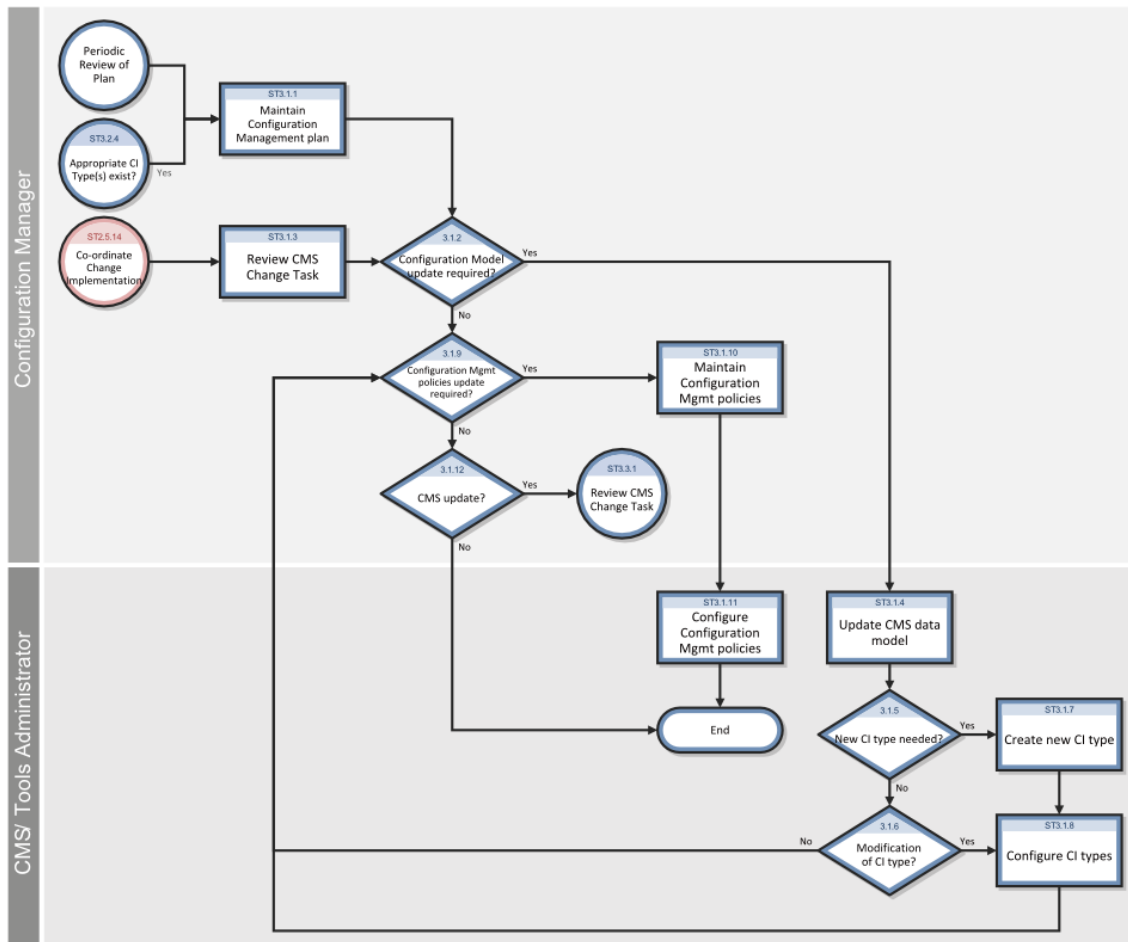


ITIL Workflows	User Tasks
"Configuration management and planning (ST 3.1)" on the next page	<ul style="list-style-type: none"> <li>• "Evaluate the need for a Configuration Management System (CMS) data model update" on page 21</li> <li>• "Update Configuration Management policies" on</li> </ul>

	<a href="#">page 22</a> <ul style="list-style-type: none"> <li>• <a href="#">"Create a new configuration item (CI) type" on page 23</a></li> <li>• <a href="#">"Modify a configuration item (CI) type" on page 24</a></li> <li>• <a href="#">"Delete a configuration item (CI) type" on page 25</a></li> </ul>
<a href="#">"Configuration identification (ST 3.2)" on page 27</a>	<ul style="list-style-type: none"> <li>• <a href="#">"Validate a configuration creation change task" on page 27</a></li> <li>• <a href="#">"Create a new model" on page 29</a></li> <li>• <a href="#">"Create a new configuration item (CI)" on page 30</a></li> </ul>
<a href="#">"Configuration control (ST 3.3)" on page 32</a>	<ul style="list-style-type: none"> <li>• <a href="#">"Modify a configuration item" on page 33</a></li> <li>• <a href="#">"Plan CI relationship changes from a change record" on page 34</a></li> </ul>
<a href="#">"Configuration status accounting and reporting (ST 3.4)" on page 36</a>	<ul style="list-style-type: none"> <li>• <a href="#">"Review a modification to a configuration item" on page 37</a></li> <li>• <a href="#">Run a standard configuration report</a></li> <li>• <a href="#">"Create a new configuration report" on page 38</a></li> </ul>
<a href="#">"Configuration verification and audit (ST 3.5)" on page 39</a>	<ul style="list-style-type: none"> <li>• <a href="#">"Conduct a configuration audit" on page 40</a></li> </ul>
<a href="#">"Manage master data (ST 3.6)" on page 41</a>	<ul style="list-style-type: none"> <li>• <a href="#">"Validate data sets" on page 44</a></li> <li>• <a href="#">"Add a master data record" on page 44</a></li> <li>• <a href="#">"Update a master data record" on page 45</a></li> <li>• <a href="#">"Delete a master data record" on page 46</a></li> <li>• <a href="#">"Check related configurations" on page 47</a></li> </ul>

## Configuration management and planning (ST 3.1)

Configuration management is planned and implemented in conjunction with change and release management to ensure that the service provider can manage its IT assets and configurations effectively.

**Part of Workflow(s):**

"Configuration management and planning (ST 3.1)" on the previous page

**Applies to User Roles:**

"Configuration Manager" on page 11

## Evaluate the need for a Configuration Management System (CMS) data model update

Individuals and organizational groups submit requests to create or to modify configurations as part of a variety of management processes, including User Interaction Management, Incident Management, Problem Management, and Release Management. You can also request the creation or modification of configurations based on the results of the periodic review of the Configuration Management plan. It is the Change Coordinator's role to request an update to the Configuration Management System (CMS)

data model by creating a change task after there has been a successful test implementation of the change in the production environment.

The Configuration Manager evaluates any task that requests a change to the CMS data model before the manager releases the task for implementation. For example, the introduction of a new configuration item (CI) into the IT infrastructure would require a request for change and a review of that request prior to implementation of the change.

Make sure to verify that no existing CI type meets the needs of the change and that the proposed data model change does not conflict with other parts of the model.

To evaluate the need for a CMS data model update, follow these steps:

1. From your To Do Queue, click **Change Task** in the Queue list, and then click **All Open Tasks** in the View list.
2. Find the task requesting an update to the CMS data model, and double-click the record to open it. Use search or advanced search to find one or more records.
3. Review the task to verify whether an update to the CMS data model is required:
  - If an update is required, notify the System Administrator or CMS Administrator that the task is ready for implementation.
  - If no update is required, reject the task.
4. Determine whether the Configuration Management policies require an update.
  - If an update to the Configuration Management policies is required, contact the Configuration Administrator to request implementation.
  - If no update to the Configuration Management policies is required, no further action is required.

**Part of Workflow(s):**

["Configuration management and planning \(ST 3.1\)" on page 20](#)

**Applies to User Roles:**

["Configuration Administrator" on page 13](#)

["CMS and Tools Administrator" on page 17](#)

## Update Configuration Management policies

**User roles:** Configuration Administrator, Tools Administrator

If the Configuration Manager determines that the Configuration Management policies must be updated or if an update to the Configuration Management System (CMS) data model requires a change to the policies, the Configuration Administrator or Tools Administrator implements the policy changes.

The policies include business rules and requirements for specific information to be maintained in the CMS. For example, the policies may affect the contract monitoring or determine how often a configuration audit is required. Other items that are covered by policies and business rules include:

- Naming conventions
- Labeling rules
- Asset capitalization rules
- Procedures for lost or stolen items

Configuration Management policies and requirements are translated into tool settings, such as required fields, the schedule for automated inventory and discovery, and reconciliation rules.

Implement any required updates to the Configuration Management policies in accordance with your company procedures.

**Part of Workflow(s):**

["Configuration management and planning \(ST 3.1\)" on page 20](#)

**Applies to User Roles:**

["CMS and Tools Administrator" on page 17](#)

## Create a new configuration item (CI) type

When a Change Coordinator creates a task that requests an update to the Configuration Management System (CMS) data model, the Configuration Manager reviews the task to verify that the change is required. If the Configuration Manager determines that the CMS data model must be updated to add a new configuration item (CI) type, the Tools Administrator creates the new CI type in HP Service Manager.

To create a new CI type, follow these steps:

1. Find the change task that requests the creation of a new CI type in your To Do Queue, and then double-click the record to open it. If you do not see the task in your To Do Queue, click **Change Management > Tasks > Search Tasks**. Use search or advanced search to find one or more records.
2. Review the task instructions regarding the new CI type.

3. Create the new CI type. To do this, follow these steps:
  - a. Click **Configuration Management > Administration > Add New CI Type**.
  - b. After the wizard opens, follow the onscreen instructions.
4. After the CI type is created, return to the task record and update it with the following information:
  - CI data
  - Actual Start date
  - Actual End date
5. Close the task. To do this, follow these steps:
  - a. Click **Close Task**.
  - b. Select a **Closure Code** and then type a comment in the **Closure Comment** field.
  - c. Click **OK**. Service Manager sets the task state to **Closed**.
6. Determine whether the Configuration Management policies require an update:
  - If an update to the Configuration Management policies is required, update the policies or contact the Tools Administrator to request implementation.
  - If no update to the Configuration Management policies is required, no further action is required.

**Part of Workflow(s):**

["Configuration management and planning \(ST 3.1\)" on page 20](#)

**Applies to User Roles:**

["Configuration Administrator" on page 13](#)

["CMS and Tools Administrator" on page 17](#)

## Modify a configuration item (CI) type

**User roles:** Configuration Administrator, Tools Administrator

When a Change Coordinator creates a task that requests an update to the Configuration Management System (CMS) data model, the Configuration Manager reviews the task to make sure the change is required. If the Configuration Manager determines that the CMS data model must be updated to modify the definition of an existing CI type, it is the task of the Configuration Administrator or Tools Administrator to modify the CI type in HP Service Manager.



To modify a CI type, follow these steps:

1. Find the task that requests the modification of an existing CI type in your To Do Queue, and then double-click the record to open it. If you do not see the task in your To Do Queue, click **Change Management > Tasks > Search Tasks**. Use search or advanced search to find one or more records.
2. Review the task instructions regarding modification of the existing CI type.
3. Click **Configuration Management > Resources > CI Types** to access CI type records.
4. Use search or advanced search to find one or more records.
5. Click the CI type you want to modify and view it in the Manage CI Types form.
6. Create or modify the definition of the CI type. For example, you may want to add or change the CI subtypes or attribute definitions.
7. Click **Save**.
8. After the new CI type is modified, return to the task record and update it with the following information:
  - CI data
  - Actual start date
  - Actual end date
9. Close the task. To do this, follow these steps:
  - a. Click **Close Task**.
  - b. Select a **Closure Code** and then type a comment in the **Closure Comment** field.
  - c. Click **OK**. Service Manager sets the task state to **Closed**.
10. Determine whether the Configuration Management policies require an update:
  - If an update to the Configuration Management policies is required, contact the CMS or Tools Administrator to request implementation.
  - If no update to the Configuration Management policies is required, no further action is required.

## Delete a configuration item (CI) type

**Applies to User Roles:**

## System Administrator

When a Change Coordinator creates a task that requests an update to the Configuration Management System (CMS) data model, the Configuration Manager reviews the task to make sure that the change is required. If the Configuration Manager determines that the CMS data model must be updated to delete an existing configuration item (CI) type, it is the task of the System Administrator to delete the CI type in HP Service Manager.

To delete a CI type, follow these steps:

1. Find the task that requests deletion of an existing CI type in your To Do Queue, and then double-click the record to open it. If you do not see the task in your To Do Queue, click **Change Management > Tasks > Search Tasks**. Use search or advanced search to find one or more records.
2. Review the task instructions regarding deletion of the existing CI type.
3. Click **Configuration Management > Resources > CI Types**.
4. Click **Search** to view a list of existing CI types.
5. Click the CI type you want to delete and view it in the Manage CI Types form.
6. Click **Delete**.
7. Click **Yes** to confirm the deletion.

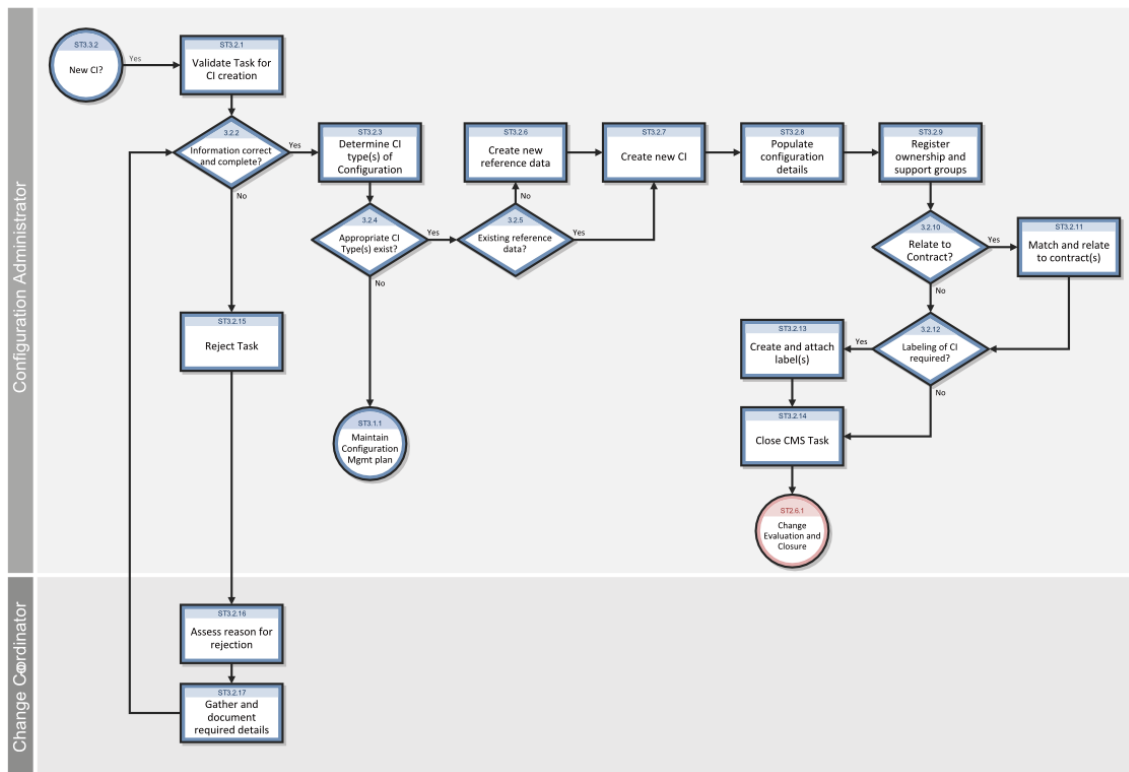
By default, Service Manager will also delete items associated with the CI type (View Format, Format Control, and so on).

8. Deselect the items that you do not want to delete, and click **Confirm** to delete the CI type.
9. After the CI type is deleted, return to the task record and update it with the following information:
  - CI data
  - Actual start date
  - Actual end date
10. Close the task. To do this, follow these steps:
  - a. Click **Close Task**.
  - b. Select **Closure Code** and then type a Closure Comment.

- c. Click **Save & Exit**. Service Manager sets the task state to **Closed**.
11. Determine whether the Configuration Management policies require an update:
    - If an update to the Configuration Management policies is required, contact the CMS or Tools Administrator to request implementation.
    - If no update to the Configuration Management policies is required, no further action is required.

## Configuration identification (ST 3.2)

In the configuration identification process, the Configuration Administrator selects Configuration Items (CIs), records their identifying characteristics, and assigns unique identifiers to the selected items. This helps to ensure efficient data storage and retrieval.



## Validate a configuration creation change task

### Part of Workflow(s):

"Configuration identification (ST 3.2)" above

**Applies to User Roles:**

["Configuration Administrator" on page 13](#)

A HP Service Manager configuration is a group of configuration items (CIs) that work together to deliver an IT service or a recognizable part of an IT service. A configuration can also refer to the parameter settings for one or more CIs. When a change task that requests configuration creation is assigned to you or your group, you must first verify that the information required to create the new configuration is complete and correct before you perform the task. You must also verify that the CI types and models exist in Service Manager before you can create new CIs.

Your Service Manager system may be configured to automatically create a change record whenever the actual state of a CI does not match the values in the Service Manager CI record. If this integration is active, you will see an Actual State section in the Service Manager CI record.

To validate a configuration creation change task, follow these steps:

1. From your To Do Queue, click **Change Task** in the Queue list and then click **All Open Tasks** in the View list.
2. Find the task that requests configuration creation, and double-click the record to open it. Use search or advanced search to find one or more records.
3. Review the task to verify that all information needed to create the configuration is complete and correct:
  - If the task information is incomplete or incorrect, reject the task.
  - If the task information is complete and correct, determine the CI types needed to create the configuration and search to verify that they are available in Service Manager. To do this, follow these steps:
    - i. Click **Configuration Management > Resources > CI Types**.
    - ii. Use search or advanced search to find one or more records.
    - iii. Find any existing CI types that are suitable as templates for the new CIs.
4. Verify whether CI types that match the CI creation task exist:
  - If there are no existing CI types that match the CI creation task, reject the task.
  - If there are existing CI types that can be used as templates, verify that the models from the manufacturer or supplier exist in Service Manager. To do this, follow these steps:
    - i. Click **Request Management > Maintenance > Supporting Files > Models**.
    - ii. Use search or advanced search to find one or more records.

- iii. Find the models from the manufacturer or supplier.
5. Verify that the models exist in Service Manager:
    - If there are no existing models, create a new model. For details, see ["Create a new model" below](#).
    - If there are existing models, create the new CIs that make up the configuration. For details, see ["Create a new configuration item \(CI\)" on the next page](#).

**Part of Workflow(s):**

["Configuration identification \(ST 3.2\)" on page 27](#)

**Applies to User Roles:**

["Configuration Administrator" on page 13](#)

## Create a new model

After you validate a configuration creation change task and determine that there is no existing model in HP Service Manager for the new configuration, you can create a new model and manufacturer. A model refers to the product catalog that defines the approved and certified list of components that can be deployed within the IT environment. Models contain information such as model name, manufacturer, and the ID of a component. You must create a model before you can create new configuration items (CIs) that are based on the model.

To create a new model, follow these steps:

1. Click **Request Management > Maintenance > Supporting Files > Model**.
2. Use search or advanced search to find one or more records.
3. Find the models from the manufacturer or supplier.
4. Type or select the new model information, and then click **Add**.
5. Double-click the Line Item Category Name that best describes the new model. Service Manager adds the model record and then displays several more tabs where you can enter additional information about the model.

6. Type or select any additional information for the model in the new form tabs, and then click **Save**.

**Note:** Select all tabs to make sure that you have completed all required fields.

You can now create new configuration items based on the new model.

## Create a new configuration item (CI)

### Part of Workflow(s):

["Configuration identification \(ST 3.2\)" on page 27](#)

### Applies to User Roles:

["Configuration Administrator" on page 13](#)

After you validate a configuration creation change task and confirm that configuration item (CI) types and models already exist in HP Service Manager for the new configuration, you can create the new CIs that make up the new configuration.

#### Note:

- If your system is integrated with HP Universal CMDB, HP Universal CMDB sends CI records to Service Manager and attempts to match them to existing records. Your Service Manager system can be configured to automatically create a new CI record whenever HP Universal CMDB cannot match the actual state of a CI to the values of an existing CI record. If this integration is active, you will see an Actual State section in the Service Manager CI record.
- You cannot use this method to create Baseline CI Groups but you can use the Add New Baseline wizard instead. To access the wizard, click **Configuration Management > Resources > Baseline**.
- Instead of starting from scratch, you can also create a new configuration item from an existing one by using the **Duplicate Configuration Item** option.

To create a new CI, follow these steps:

1. Click **Configuration Management > Resources > Search CIs**.
2. Click **New**.

**Note:** Alternatively, you can enter information in some fields and then click **New**.

3. Select the CI type and then click **Next**.

The Configuration Item Details form opens, and the CI Identifier field is automatically populated with a unique identification number (for example, CI11090).

4. If the **Allow User-Defined CI Identifier Values for New CIs** option in the Configuration Management Environment record is enabled, you can edit the system-generated CI Identifier value according to your needs (for example, change the CI Identifier to `Color-Printer-A1234`). For more information about this option, see ["Configure the Configuration Management environment record" on page 99](#).

**Note:** When this option is not enabled, although you are still allowed to enter a CI Identifier value before clicking **New**, a system-generated value overwrites your value when the CI is created.

5. In the Display Name field, enter a display name for the CI.

**Note:** CIs of the same CI type must use a unique display name, otherwise a validation error occurs later when you attempt to save the CI record. However, CIs of different CI types can have the same display name.

6. In the Part Number field, enter the part number of the model that is used for the new CI.
7. Enter other required or optional information to complete the CI record, and then click **Save**.

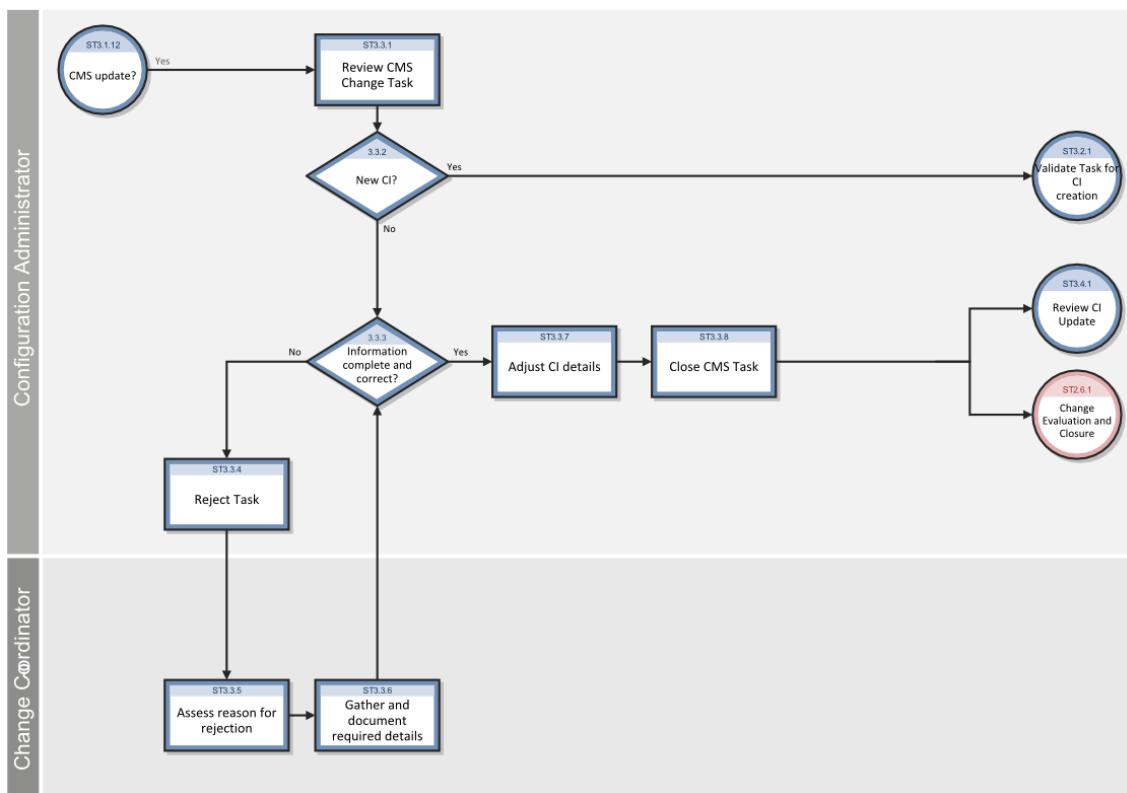
Service Manager creates the CI record with a unique identifier.

8. If your Configuration Management policies require that CIs must be labeled, create and then attach a label to the CI. The label should include a unique identifier.
9. Repeat the steps above for all CIs that make up the configuration.

10. After you create the CIs, return to the change task and update it with the following information:
  - CI data
  - Actual start date
  - Actual end date
11. Close the task.
12. Notify the change task requestor upon task completion.

## Configuration control (ST 3.3)

In the configuration control process, the Configuration Administrator reviews the Configuration Management task for updating the Configuration Management system (CMS) and evaluates the configuration in its premodification and postmodification state.



For more information on this process, refer to the HP Service Manager Processes and *Best Practices Guide*.

### Part of Workflow(s):



["Configuration control \(ST 3.3\)" on the previous page](#)

**Applies to User Roles:**

["Configuration Administrator" on page 13](#)

## Modify a configuration item

You may be assigned a change task by the Change Coordinator that requests you to modify a configuration item (CI). Follow the procedure below to ensure that changes to configurations are properly controlled and records of any modifications are maintained.

To modify a CI, follow these steps:

1. Find the task that requests the modification of an existing CI in your To Do Queue, and then double-click the record to open it. If you do not see the task in your To Do Queue, click the **Change Tasks** queue to view the task.
2. Review the task to determine whether the information required to modify the CI is complete and accurate.
3. In the **Affected CI** list, click the CI that you have been requested to modify and then click **Find** to display the CI details.
4. Review the current information about the CI to make sure that the starting point for the modifications is as expected.
5. Verify that the proposed modifications are correct, applicable, and in accordance with Configuration Management policies. If the modification is not applicable, reject the change task.
6. Modify the necessary fields in the configuration record.
7. Click **Save & Exit**.
8. Notify the Change Coordinator that the CI modification is complete and that the task can be closed.

**Part of Workflow(s):**

["Configuration control \(ST 3.3\)" on the previous page](#)

**Applies to User Roles:**

["Configuration Manager" on page 11](#)

["Configuration Administrator" on page 13](#)

["Configuration Auditor" on page 15](#)

## Plan CI relationship changes from a change record

As of version 9.31, HP Service Manager provides the ability to plan Configuration Item (CI) relationship changes from a change record of the Planned Change category. Two tables (dataModEventRel and dataModEventRelItem) were added to store the data modification events of relationship records and their downstream CIs. In addition, the same data modification event status change applies for both CI attributes and CI relationships. All changes are logged incrementally. For example, if a change plans to add one downstream CI to an existing relationship that already has two downstream CIs, only the new downstream CI is listed for tracking or approval.

To add a CI relationship to be changed in a Planned Change record, follow these steps:

1. From Change Management, open a change record that is not approved.
2. Click **More > Set Expected States**. Alternatively, open the **Associated CIs** section, and then click the **Add Attributes/Relationships** button.
3. Select one CI that you want to modify, and then click **Next**.

**Note:** If the change record has only one affected CI, this step is automatically skipped; if the change record has no affected CIs, the **Set Relationship** option is not selectable in the next step.

**Caution:** You can select only one CI in this step; otherwise the **Set Relationship** option will not be selectable in the next step. This is because you can add relationships for only one CI at one time.

4. Select **Set Relationship**, and then click **Next**.

A new form opens. If the selected CI has existing relationships, two options are displayed: **Add New Relationship** and **Update/Delete Existing Relationship**; if the selected CI has no existing relationships, only the first option is displayed.

5. Select **Add New Relationship**, and then click **Next**. The Relationship Definition form opens.
6. Complete necessary fields on the **Relationship Detail** and **Outage Dependency** tabs, and then click

**Finish.** See the following table for an example.

Field	Value
Upstream CI	C1000800
Relationship Name	desk104connection101
Relationship Type	Physical
Relationship Subtype	Connects
Downstream CIs	adv-afr-desk-101
Outage Dependency	(selected)
This Configuration Item will be considered down if	1 or more of the supporting configuration items are down

A message similar to the following is displayed:

Change Event for relationship "desk104connection101" linked to Change "C10002".

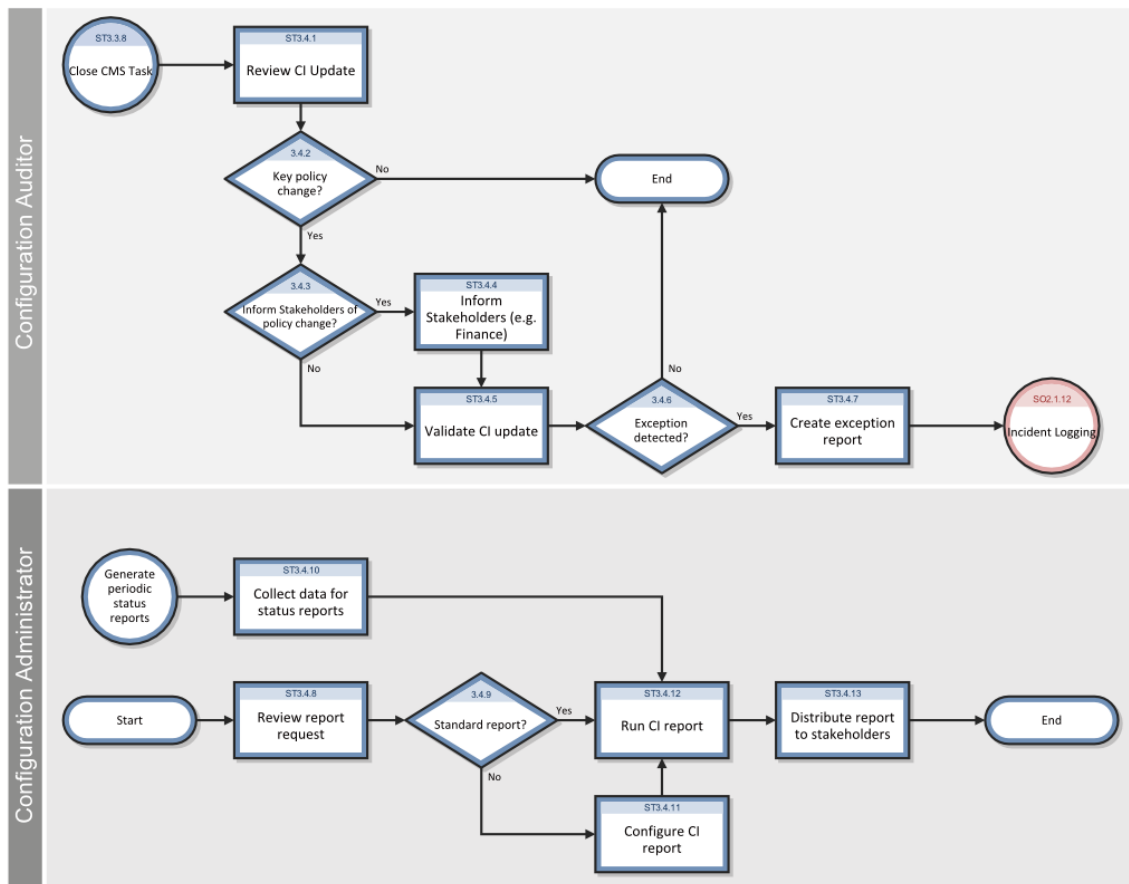
7. Go to the **Associated CIs** section of the change record, and locate the new relationship in the **CMDB relationships need to be changed for CIs in the list** table. The new relationship has a status of **Proposed**.
8. Click the link of the new relationship to view the relationship details.
9. If needed, change the **Status** from **Proposed** to **Canceled**, and then save your change. If the **Status** is set to **Canceled**, the relationship changes are not processed.

**Note:** When the change record has been approved and moved to the implementation phase, the status of the new relationship (if not canceled) changes from **Proposed** to **Planned**, and the relationship changes then go through the rest of the change workflow. The change record cannot be closed until the CI relationship changes have been implemented and validated.

Next, from the **Relationship Changes** sections of the upstream and downstream CI records you can view the new CI relationship, which has a link to the change record. In this example, the affected CIs are **adv-afr-desk-104** and **adv-afr-desk-101**, and the new relationship is **desk104connection101**.

## Configuration status accounting and reporting (ST 3.4)

Configuration status accounting and reporting ensures that all configuration data and documentation are recorded as each Configuration Item (CI) progresses through its life cycle, from test to production to retirement. Configuration information should be kept current and made available for planning, decision making, and managing changes to the defined configurations.



For more information on this process, refer to the HP Service Manager Processes and *Best Practices Guide*.

### Part of Workflow(s):

"Configuration status accounting and reporting (ST 3.4)" above

### Applies to User Roles:

"Configuration Auditor" on page 15

## Review a modification to a configuration item

When you review the modifications made to configuration item (CI) records, you should verify that any change in status is properly recorded. Often changes in status have implications to other stakeholders and departments in the organization. For example, when an asset's status changes from **In Stock** to **In Use**, this new status may have financial accounting/depreciation implications. It is important to correctly record the status of each configuration item throughout its entire life cycle.

To review a modification to a CI, follow these steps:

1. Click **Configuration Management >Resources > Search CIs**.
2. Use search or advanced search to find one or more records. Enter the CI Identifier or other information that will help you find the modified CI.
3. Select the configuration item that was modified.
4. Determine whether the information in the CI record must be reviewed or verified, based on documented Configuration Management policies and policies related to finance, procurement, Contract Management, and security procedures.
5. Verify if a life cycle event that must be reported to various stakeholders has occurred. Examples include:
  - Acceptance of a received item
  - Installation of a new asset
  - Item was lost or stolen
  - Item was retiredIf such an event has occurred, notify the stakeholders (for example, Finance, Procurement, or Contract Management).
6. Verify that all the information in the CI record is accurate and complete, based on documented Configuration Management policies and policies related to finance, procurement, Contract Management, and security procedures. You must also make sure that the modification is the result of an authorized change request.
  - If everything is correct and complete according to Configuration Management policies, open the **Audit** section and select **Audited** from the Audit Status list.

- If the CI modification or details are incorrect and incomplete, record the exception by selecting **Minor discrepancy found** or **Critical discrepancy** from the Audit Status list. If you maintain an exception report outside of HP Service Manager, you can also enter it there.
7. If there is a discrepancy or exception, create a new incident by clicking **Incident Management > Create New Incident**. Enter the affected CI (or copy it from the Configuration Item record screen) and other required information, and then click **Save**.

**Part of Workflow(s):**

["Configuration status accounting and reporting \(ST 3.4\)" on page 36](#)

**Applies to User Roles:**

["Configuration Administrator" on page 13](#)

## Create a new configuration report

HP Service Manager provides a number of standard configuration reports that you can view from **Configuration Management > CI Overview**. You may also want to define and generate your own reports. If you receive a stakeholder request for a specific report, you can prepare a customized configuration report to meet specific stakeholder requirements.

To create a configuration report, follow these steps:

1. Click **Reporting > Create New Report**.

Alternatively, click **Configuration Management > CI Overview > Add Content > Create New Report**.

2. In the **Name** field, enter a descriptive name for the report.
3. In the **Source Data** field, select **Configuration Item - device**.
4. In the **Report Category** field, select **Configuration Item**.
5. Click **Query Builder**, and specify a query. For example, select **Application** for **CI Type** and select **Development Tools** for **CI Subtype**. Click **OK**.

The Query box is automatically populated with a query expression based on your selections, for example, **type#"application" and subtype#"Development Tools"**.

6. On the **Chart properties** tab, configure the report properties as needed.

- On the **Permission** tab, configure the owner and audience of this report.

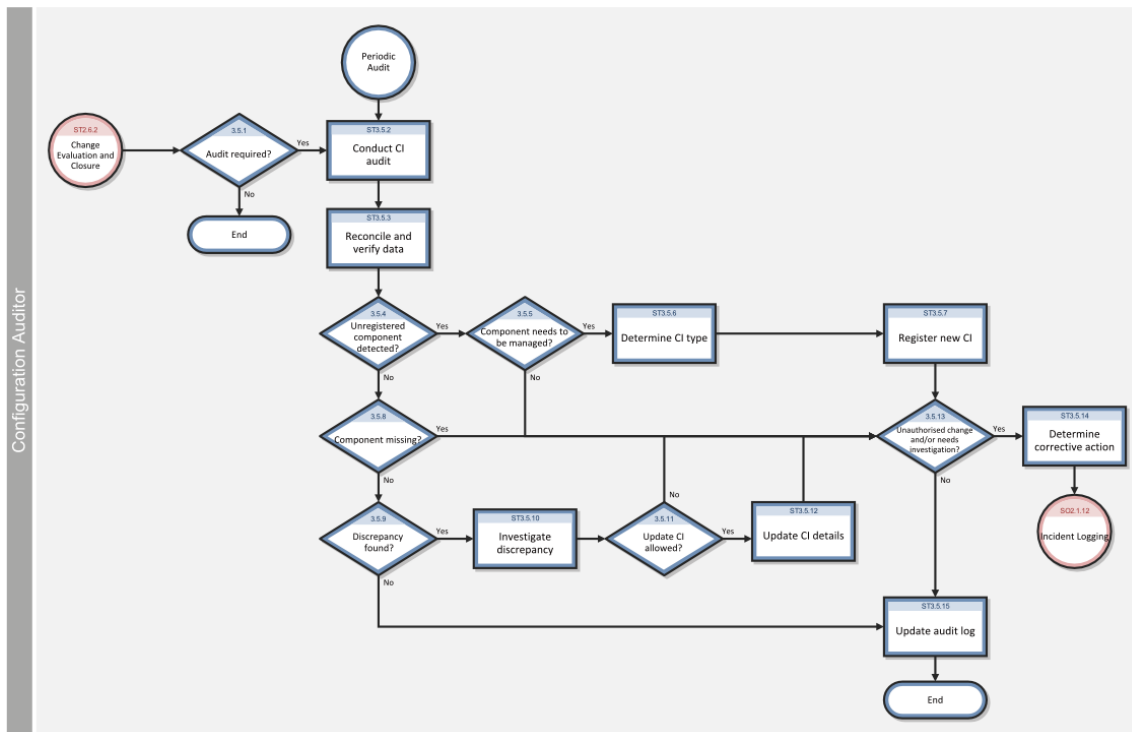
**Note:** By default, you are the report owner. You can change the owner as needed.

- On the **Advanced settings** tab, modify the default settings if needed.
- Click **Add**.
- Add this report to a new or an existing dashboard. For details, see ["Create a dashboard" on page 1](#) or ["Update a dashboard" on page 1](#).

When you open the dashboard, the report is displayed.

## Configuration verification and audit (ST 3.5)

Verification and auditing is responsible for ensuring that information in Configuration Management is accurate and that all Configuration Items (CIs) are identified and recorded in Configuration Management. The process can be conducted manually, or by using automated inventory and discovery tools.



For more information on this process, refer to the HP Service Manager Processes and *Best Practices Guide*.

**Part of Workflow(s):**

["Configuration status accounting and reporting \(ST 3.4\)" on page 36](#)

**Applies to User Roles:**

["Configuration Auditor" on page 15](#)

## Conduct a configuration audit

You should conduct configuration audits on a regular periodic basis, and also before or after major changes or releases. The objective is to ensure that information in the configuration management database is correct, and that all configuration items are accurately and completely recorded.

You can conduct an audit manually, or by using automated inventory and discovery tools. If you find discrepancies between the actual configuration and the details as recorded in HP Service Manager, you need to determine whether there is an authorized change to account for the difference, or whether further investigation or corrective action is necessary.

**Note:** The general procedures for conducting a configuration audit are described below. If you have the Service Manager UCMDB Integration, you can see the Actual State section, which contains detailed data about each of the CIs discovered. In addition, you can use the Service Manager Discovery Event Manager feature to set rules about handling discrepancies between the actual discovered and managed CIs.

To conduct a configuration audit, follow these steps:

1. Click **Configuration Management > Resources > Search CIs**.
2. Use search or advanced search to find one or more records.
3. Compare each configuration item listed in your inventory or discovered by your discovery tool to the data for the configuration item contained in the **Managed State** section and in other sections of the CI record.

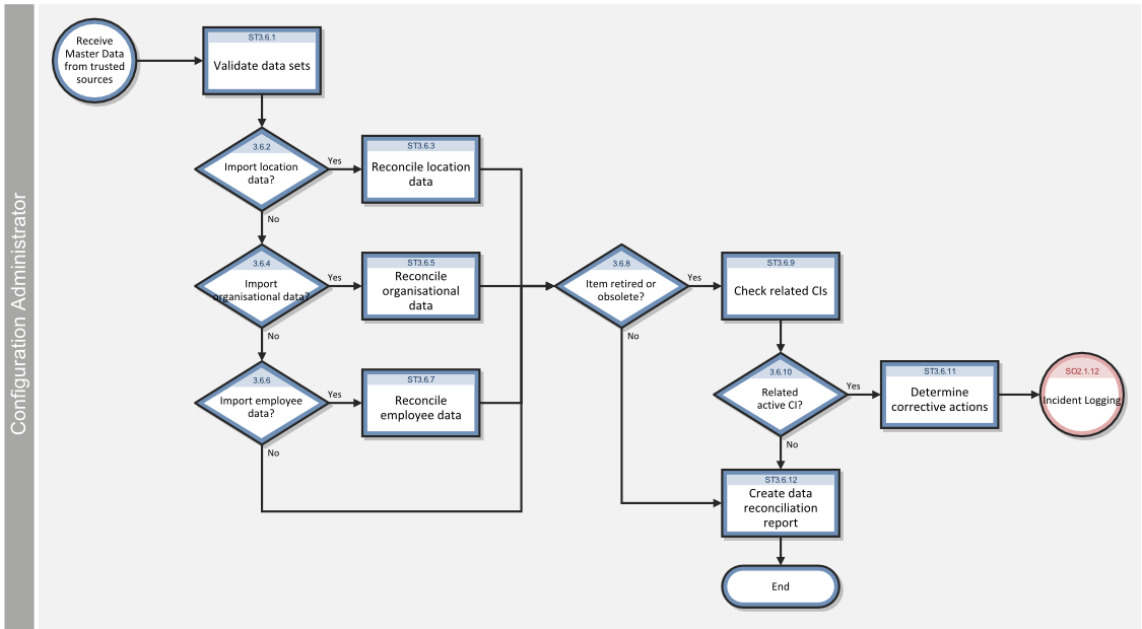


4. If you discover an item that is not registered in Service Manager, follow these steps:
  - a. Determine whether the item needs to be managed, based on its scope and your policies.
  - b. If the item must be managed, determine its CI type and then create a new CI record in Service Manager.
  - c. Open the **CI Changes** section. Determine whether the mismatch resulted from an authorized change, or whether it was an unauthorized change that requires further investigation or corrective action.
  - d. If the discrepancy resulted from an unauthorized change, create a new incident.
5. If Service Manager lists a configuration item that cannot be found, it may be lost or stolen. To check the configuration item, follow these steps:
  - a. Open the **CI Changes** section. Determine whether the mismatch resulted from an authorized change (such as the authorized retirement and disposal of a piece of equipment that no longer works properly), or whether it was an unauthorized change that requires further investigation or corrective action.
  - b. If the discrepancy resulted from an unauthorized change, create a new incident.
6. If the discovered item is registered in Service Manager but there is some discrepancy between the actual, registered, and managed data, follow these steps:
  - a. Investigate the discrepancy to define the differences.
  - b. Determine whether the managed data can be updated directly without opening a formal change.
  - c. If the CI details can be updated directly, make the necessary changes in the appropriate fields in the CI record.
  - d. Determine whether the discrepancy requires further investigation or corrective action.
  - e. If further action is necessary, determine the appropriate investigative or corrective actions, and create an incident to execute those actions.
  - f. If no further action is necessary, update the audit log with the audit status and last audit date.

## Manage master data (ST 3.6)

Master reference data is key data that the Configuration Management System (CMS) depends on and is often provided by different organizational functions, such as Human Resources Management, Finance,

and Facilities. For example, master data can include details about organization units, cost centers, employee data, and locations.



For more information on this process, refer to the HP Service Manager Processes and *Best Practices Guide*.

## Master data records

Master data are key data that are shared by all Service Manager applications, and are stored as records in support tables. Master data are often provided by functions outside of Information Technology, such as Human Resource Management, Finance, and Facilities.

As a System Administrator, you can create, update, and delete master data records from the **System Administration > Base System Configuration** menu.

**Note:** In ITIL best practices, a Configuration Administrator manages master data. In Service Manager, however, only a System Administrator has rights to master data, because the master data are shared by all Service Manager applications. You may need to contact a System Administrator to implement master data changes or to request permission to perform this function.

Master data record name	Purpose
Companies	Contains contact information and preferences about the companies you work with.

Master data record name	Purpose
<b>Contacts</b>	Contains contact information about users who contact the service desk to initiate a service desk interaction, incident, or change, or a person who uses components tracked in Configuration Management.  This is a generally larger group than the Service Manager operators, but may include them.
<b>Conversion Rates</b>	Contains the conversion rates for international currencies.
<b>Currencies</b>	Contains the ISO codes and formats for international currencies. These records specify whether an individual currency uses European Union Currency (EUR) as its root.
<b>Departments</b>	Contains identifying information and service level agreements for company departments.
<b>Fax</b>	Contains device name and address information for your office fax configurations.
<b>Holidays</b>	Contains holiday dates by group (worldwide, unique to United States, etc.)
<b>Locations</b>	Contains address and organization information about the locations in your company. You can define the site category with the following types: Critical Site, Major Site, Satellite Site, Home Site.
<b>Models</b>	Contains a detailed bill of materials for a part. This includes the hardware, software and services that comprise the item, as well as controls on the part and its components. The record contains information regarding what operators can do with the part, how components of this part are selected, how quote line items turn into orders, and whether to order or to consume from stock.
<b>Standard File</b>	Contains file configuration information, which defines file handling (import, export, etc.) for different operating systems.
<b>Vendors</b>	Contains manufacturer and retail vendor/supplier information. It also holds data on internal and external service providers. A vendor record for a particular manufacturer must exist before items from the manufacturer can be admitted to the Configuration Management and Request Management catalogs.
<b>Work Schedules</b>	Defines the work hours for one or more operators. Service Manager can generate a complex 24x7 schedule that spans multiple time zones, includes all shift and break information, accommodates any regional shift to Daylight Savings time, and automatically accounts for local or national holidays.

**Part of Workflow(s):**

["Manage master data \(ST 3.6\)" on page 41](#)

**Applies to User Roles:**

["Configuration Administrator" on page 13](#)

## Validate data sets

**User roles:** System Administrator, Configuration Administrator

**Note:** In ITIL best practices, a Configuration Administrator manages master data. In Service Manager, however, only a System Administrator has rights to master data, because the master data is shared by all Service Manager applications. You may need to contact a System Administrator to implement master data changes or to request permission to perform this function.

If you receive a request from a trusted source to manually reconcile master data in the Configuration Management system (CMS), you must first validate the data sets before implementing the changes.

Master data is often provided by functions outside of Information Technology, such as Human Resource Management, Finance, and Facilities, and requests to change the data can come from different sources. For example, requests can be generated via Change Management as a Request for Change or via Request Management as the result of a new quote. Examples of master data are company records, which include contact information and preferences about the companies you work with or vendor records, which contain manufacturer and retail vendor/supplier information.

**Note:** Service Manager can automatically update master data if your system is integrated with other applications, such as HP Universal CMDB.

To validate data sets:

1. Confirm that the format and content of the data sets adhere to your company's defined specifications.
2. If the data sets meet the defined specifications, implement the changes to the master data records in Service Manager.
3. If the data sets do not meet the defined specifications, contact the requestor for additional information.

## Add a master data record

**Applies to User Roles:**

System Administrator

**Note:** In ITIL best practices, a Configuration Administrator manages master data. In Service Manager, however, only a System Administrator has rights to master data, because the master data is shared by

all Service Manager applications. You may need to contact a System Administrator to implement master data changes or to request permission to perform this function.

After you validate that the data sets for a new master data record request meet your company's specifications, you can add the master data record to Service Manager. For example, you may need to add a master data record for a new company location or a new vendor/supplier.

To add a master data record:

1. Click **System Administration > Base System Configuration**, and then double-click the master data category you want to add a record to.

For example, if you want to add a master data record for a new company location, click **Locations**.

2. Specify the new master data information and preferences.
3. Click **Add**.

Service Manager adds the new master data record.

Create a data reconciliation report summarizing the data modifications and any reconciliation errors in accordance with your company procedures.

**Part of Workflow(s):**

["Manage master data \(ST 3.6\)" on page 41](#)

**Applies to User Roles:**

["Configuration Administrator" on page 13](#)

## Update a master data record

**User roles:** System Administrator, Configuration Administrator

**Note:** In ITIL best practices, a Configuration Administrator manages master data. In Service Manager, however, only a System Administrator has rights to master data, because the master data is shared by all Service Manager applications. You may need to contact a System Administrator to implement master data changes or to request permission to perform this function.

After you validate that the data sets for a master data record update request meet your company's specifications, you can update the master data record in Service Manager. For example, you may need to change the cost center for a department or change the status of a master data record to retired or obsolete.

To update a master data record:

1. Click **System Administration > Base System Configuration**, and double-click the master data category for the record you want to update. For example, if you need to update a master data record to change the conversion rate for an international currency, click **Conversion Rates**.
2. Fill in optional search criteria.
3. Click **Search**.  
Service Manager returns a list of records matching your search request.
4. Double-click the master data record you want to update.
5. Specify the new master data information. If you need to change the status of the record to indicate that it is retired or obsolete, update the record in accordance with your company procedures. For example, your company procedures might instruct you to add the words retired or obsolete to the record name.
6. Click **Save**.  
Service Manager updates the master data record.
7. Search for related active configuration items to ensure that the record updates do not conflict with the configuration administration.

**Part of Workflow(s):**

["Manage master data \(ST 3.6\)" on page 41](#)

**Applies to User Roles:**

["Configuration Administrator" on page 13](#)

## Delete a master data record

**User roles:** System Administrator, Configuration Administrator

**Note:** In ITIL best practices, a Configuration Administrator manages master data. In Service Manager, however, only a System Administrator has rights to master data, because the master data is shared by all Service Manager applications. You may need to contact a System Administrator to implement master data changes or to request permission to perform this function.

After you validate that the data sets for a master data record delete request meet your company's specifications, you can delete a master data record in Service Manager. For example, you may need to delete a location record because the site was closed.

**Warning:** When you delete a master data record, it is possible that some configuration item records will still include the old master data value. Before you delete master data records, HP recommends you conduct a mass update to replace the master data value scheduled for deletion with the new approved value. This prevents obsolete data from remaining in Service Manager CI records.

To delete a master data record:

1. Click **System Administration > Base System Configuration**
2. Double-click the master data category for the record you want to delete.

For example, if you need to delete a master data record for a user who is no longer with the company, click **Contacts**.

3. Fill in optional search criteria, and then click **Search**.

Service Manager returns a list of records matching your search request.

4. Double-click the master data record you want to delete.
5. Click **Delete**.

**Note:** When you delete the contact record, the corresponding operator record will also be deleted.

6. Click **Yes** to confirm the deletion.

Service Manager deletes the master data record and notifies you that the corresponding operator record has also been deleted.

**Part of Workflow(s):**

["Manage master data \(ST 3.6\)" on page 41](#)

**Applies to User Roles:**

["Configuration Administrator" on page 13](#)

## Check related configurations

**User roles:** System Administrator, Configuration Administrator

**Note:** In ITIL best practices, a Configuration Administrator manages master data. In Service Manager, however, only a System Administrator has rights to master data, because the master data is shared by all Service Manager applications. You may need to contact a System Administrator to implement master data changes or request permission to perform this function.

After you implement master data record changes, you must search for configuration items (CIs) that are related to the master data record to ensure that the updates do not conflict with the configuration administration. For example, after you update a master data record to retire a particular contact record, you should search for subscriptions or CIs that were assigned to the contact.

**Warning:** These steps are specific to finding related CIs, but master data is shared by all Service Manager applications. HP recommends that you search for related records in all applications after updating a master data record.

To check related configurations:

1. Click **Configuration Management > Resources > Search CIs**. The Search Configuration Items form opens.
2. Specify the name of the master data record that was updated in the designated field, and then click **Search**.

For example, if a master data record for a contact was updated to indicate that the contact is retired, select the contact in the Contact Name field.

**Tip:** If you do not see a field for the master data record you want to search for, click **Advanced Filter > Add New Filter Criteria** to see additional fields.

Service Manager returns a list of CI records that are related to the master data record.

3. If there are no related CIs, create a data reconciliation report summarizing the data modifications and any reconciliation errors in accordance with your company procedures.
4. If there are related CIs, determine the corrective actions and create a new incident to implement the fix. For example, if the master data record was retired, you might request that the related CIs be updated to replace the retired master data value.

## View scheduled maintenance for a configuration item

### Applies to User Roles:

Configuration Manager

Configuration Administrator

Configuration Auditor

To view scheduled maintenance for a configuration item, follow these steps:



1. Click **Configuration Management > Search CIs**.
2. Use search or advanced search to find one or more records.
3. Select a record to display it in the configuration item form.
4. Click **More** or the **More Actions** icon from the Configuration Item form.
5. Click **Scheduled Maintenance** and then click **Maintenance Tasks** to view the tasks or **Maintenance History** to view the item's history.

## Service life cycle management

Services are represented as Configuration Items (CIs) in HP Service Manager, which enables CI access to all related support and delivery processes. Life cycle processes include the following:

- Define a new service.
- Discover, define, and manage CI relationships.
- Add Service Levels (service-oriented SLA).
- Publish a service to the Service Catalog.
- Sign up customers and manage their subscriptions.
- Fulfill subscription requests through Change Management.
- Monitor and support by using Incident, Change, and Problem Management.
- Monitor SLAs and optimize service delivery.

Services are provided by IT to satisfy a range of business needs. Services can be delivered to individuals, departments, or an entire enterprise. Sample services can include email, billing system, workstation backup, or office automation. The service instance is the deployment of a service, modeled as a CI in the CMDB, and it can have related CIs, customers, incidents, and changes.

Once the service is deployed, the Service Catalog lists and describes all of the services that IT offers, providing customers with a view to browse and make requests. Catalog items can range from single-user workstations to department or enterprise application support.

**Note:** For more information on Service life cycle management, refer to the white paper, *Service life*

*cycle management*, document ID KM524933, published in the [Customer support knowledgebase](#).

## Visual design of CI relationships

The following are the visualization features in HP Service Manager.

Feature	Description
<a href="#">"CI Visualization" on page 139</a>	A Configuration Manager user can define CI relationships and can visualize and edit them with a graphical CI diagram tool.
<a href="#">"CI node grouping" on page 155</a>	Flexible CI aggregation gives you the option on any folder grouping of CIs to display the individual CIs.
<a href="#">"Display of outage spreading in CI visualization" on page 156</a>	CI Visualization provides enhanced outage spreading modeling. It displays the Item Down decorator to indicate that a Configuration Item (CI) is down.
<a href="#">"Out-of-box icons for decorators" on page 145</a>	Several CI Visualization decorators, including an SLA breached decorator, are available with the out-of-box application. You can optionally customize decorators or add new decorators.

## Publish services in Service Catalog

The Service Catalog serves as the comprehensive archive of all services provided by IT. You can manage the publication of services by using the following features.

Feature	Description
<a href="#">Fully defined out-of-box catalog</a>	The Service Catalog includes one hundred (100) services and bundles that span major categories such as Personal Productivity, Business Services, Employee Life Cycle, and Technical IT.
<a href="#">Adding a Service Catalog item</a>	You can define the external view of a service.
<a href="#">Adding delivery objectives</a>	You can enter service options such as delivery objectives that are dynamically exposed through the self-service

Feature	Description
	shopping interface.
<a href="#">Defining a catalog item that results in the creation of a subscription</a>	You can set the criteria for subscriptions.
<a href="#">Service Catalog connectors</a>	You can select the subscription change connector.

## Requesting services

The Service Catalog self-service interface serves as a single point of entry to request any service provided by IT. Subscribers utilize the following features when using the request interface.

Feature	Description
<a href="#">"Subscriptions" on page 53</a>	Service subscriptions track the relationship between IT customers and the services they use.
<a href="#">"Choosing a subscription mode" on page 53</a>	HP Service Manager offers two modes of support for requesting service subscriptions: Service Catalog requesting and direct request with Change Management fulfillment.
<a href="#">"Define a department requestor for subscriptions" on page 63</a>	You can define and manage the list of users that are allowed to request services for the department subscribed to the service.
<a href="#">Service Catalogs</a>	Users can browse for services in the Service Catalog.
<a href="#">Request for a department</a>	You can request a service for a department.
<a href="#">Request an item or bundle</a>	You can request a service for an individual.

## Service-oriented SLAs

Service SLAs define the level of ongoing service for items described and available for order in the Service Catalog.

Feature	Description
<a href="#">Adding Service SLAs to a catalog item or bundle</a>	You can define service-oriented SLAs for items in the Service Catalog.

Feature	Description
<a href="#">Request an item or bundle</a>	Requesters can view the SLAs provided to support an item or service in the catalog.
<a href="#">"Subscriptions and service level agreements" on page 57</a>	You can drill down from a catalog item or subscription to view the details of the SLA.

## Service support

HP Service Manager enables service support with features that help you assess risk and plan changes according to service impacts.

Feature	Description
<a href="#">Affected Item field in Incident Management</a>	Incident records include a link to the Contact's affected service. Based on the contact, a list of contact subscribed services are presented to the operator for more accurate collection of incident information.
<a href="#">Affected CI field in Service Desk</a>	Interaction records include a link to the Contact's affected service. Based on the contact, a list of contact subscribed services are presented to the operator for more accurate collection of interaction information.
<a href="#">"Viewing subscriptions on the contacts and department records" on page 56</a>	You can drill into the details for the subscription by double-clicking on it in the Windows client or clicking the link in the Web client.
<a href="#">"View the subscribers for a subscription" on page 63</a>	Operators managing a CI have access to the list of all subscribers enabled to access the CI, both through individual and departmental subscriptions.
<a href="#">"Notifying service subscribers of a planned outage" on page 56</a>	You can send an email notification of the planned outage to all the individuals and members of any departments that are subscribed to the service.

## Service life cycle status

The Service Status indicates at what point the service or Configuration Item (CI) is within its life cycle. Service status options are modeled on the Information Technology Infrastructure Library (ITIL) v3 life cycle statuses. The following are the available service status options:

- Requirements
- Analyzed

- Approved
- Chartered
- Designed
- Developed
- Build
- Test
- Release
- Operational
- Retired

## Subscriptions

Service subscriptions track the relationships between IT customers and the services they use. A service subscriber, either an individual user or an entire department, can request subscriptions to various services listed in Service Catalog. A subscriber's list of subscriptions may reference access to shared services and individually assigned CIs. Subscriptions can include SLAs, history, custom options, and pending change requests.

HP Service Manager offers two modes of support for requesting service subscriptions: requests by using Service Catalog and direct requests by using Change Management fulfillment.

## Choosing a subscription mode

An administrator can choose between two subscription modes in the Configuration Management (CM) environment record. The selected mode determines whether a user subscribes to a Configuration Item (CI) by using Change Management or by using Service Catalog.

If the mode is set to Change Management, a Self-Service user can subscribe and cancel subscriptions from the subscription list view on the Self-Service page. If the mode is set to Service Catalog, a user can only subscribe through Service Catalog, although canceling a subscription can still be performed within the subscription record. The default mode is Service Catalog.

## Choose a subscription mode

### Applies to User Roles:

System Administrator

You can choose a subscription mode on the Configuration Management environment record to control whether a user subscribes to a configuration item (CI) by using Change Management or by using Service Catalog.

To choose a subscription mode, follow these steps:

1. Click **System Administration > Ongoing Maintenance > Environment Records > Configuration Management Environment**. The Configuration Management Environment Profile record opens.
2. In the **Subscriptions** section, select **Service Catalog** or **Change Management** for the Subscription Request Mode.
3. Click **Save**.
4. Click **OK**. HP Service Manager updates the Configuration Management environment record.

## Defining the change category to use when adding or canceling subscriptions

To define what change category you want to use when subscribing and unsubscribing to a specific subscription, set the change categories in the business service record (CI). If no values are specified in the business service record, the values in the Configuration Management environment record are used.

If you want to define the change categories for subscriptions at a global level, set the change category values in the Configuration Management environment record. If no values are specified in the CM environment record, the default value used is *Subscription*.

If you want to create a new change category for subscriptions, the best practice is to copy the *Subscription* category and give it a new name. After you create the new change category, you can change the CM environment record to specify the new category.

**Caution:** This is only relevant when subscription requests are handled directly by Change Management without the use of Service Catalog.

## Define the change category to use for a specific subscription

### **Applies to User Roles:**

System Administrator

If your system is designed to handle subscription requests through Change Management, you can define the change category that HP Service Manager uses when users subscribe or unsubscribe to a specific subscription by updating the configuration item (CI) record.

**Caution:** If your system is designed to handle subscription requests through Service Catalog, you need to use Service Catalog options to control how subscription requests are handled.

To define the change category to use for a specific subscription, follow these steps:

1. Click **Configuration Management > Resources > Search CIs**.
2. Use search or advanced search to find one or more records.
3. To define the change category that Service Manager uses when a user subscribes to the subscription, select a change category from the Subscription Add list in the Change Categories for Subscriptions area.
4. To define the change category that Service Manager uses when a user unsubscribes to the subscription, select a change category from the Subscription Remove list in the Change Categories for Subscriptions area.
5. Click **Save**.
6. Click **OK**. Service Manager updates the CI record.

## Define the change category to use globally for subscriptions

### **Applies to User Roles:**

System Administrator

If your system is designed to handle subscription requests through Change Management, you can define the change category HP Service Manager uses for subscriptions at a global level by updating the Configuration Management environment record.

**Caution:** If your system is designed to handle subscription requests through Service Catalog, you will need to use Service Catalog options to control how subscription requests are handled.

To define the change category to use globally for subscriptions, follow these steps:

1. Click **System Administration > Ongoing Maintenance > Environment Records > Configuration Management Environment**. The Configuration Management environment record opens.
2. To define the change category Service Manager uses when a user subscribes to a subscription, select a change category from the Subscription Add list in the Change Categories for Subscriptions area.
3. To define the change category Service Manager uses when a user unsubscribes to a subscription, select a change category from the Subscription Remove list in the Change Categories for Subscriptions area.
4. Click **Save**.
5. Click **OK**. Service Manager updates the Configuration Management environment record.

## Viewing subscriptions on the contacts and department records

When a power user views a Contacts record, there is a Subscription tab. The Subscription tab includes a Personal subscription table and a Department subscription table for the contact's department. The user can drill into the details for the subscription by double-clicking on it in the Windows client or clicking the link in the Web client.

When a power user views a Department record, there is a Subscription tab, which shows all of the subscriptions for the department. The user can drill into the details for the subscription by double-clicking on it in the Windows client or clicking the link in the Web client.

## Notifying service subscribers of a planned outage

Whenever a change record is opened against a configuration item (CI) and the **Down Start** and **Down End** fields are populated, all individual users and members of any departmental group that are



subscribed to the CI receive an email notification of the planned outage. If the **Down Start** and **Down End** values are changed, an email is sent notifying subscribers that the outage is rescheduled.

## Subscriptions and service level agreements

Each subscription can be associated with one Service SLA. The subscription table stores the SLA ID for the Service SLA associated with the subscription. HP Service Manager supports multiple Service SLAs when an interaction, a change request, an incident, or a problem record is created.

A power user can search for and view the Service SLA title when viewing a subscription record. A self-service user can view the Service SLA in a read-only find field. When a self-service user clicks the **Find** button, a detail window opens that contains the Service SLA ID, title, and description.

## View my subscriptions

### Applies to User Roles:

Self-Service

User

You can view your subscriptions for services you use from the Self-Service home page. Your list of subscriptions may reference access to both shared services and individually assigned configuration items (CIs). Subscriptions can include service level agreements (SLAs), history, custom options, and pending change requests.

To view your subscriptions, follow these steps:

1. Click **Subscriptions > For My Use** on the Self-Service home page. A list of all your individual and department service subscriptions opens.
2. Select a name to view the service description, status, history, and Service SLA.
3. In the **Service SLA** field, click the **Find Related Information** button to view a detail screen that contains the Agreement ID, Title, and Description.
4. Click **Cancel**, and then click **Back** to return to the list of service subscriptions.

**Note:** If it is an individual subscription, your name appears in the **Subscriber** field. If it is a department subscription, the name of the department appears in the **Subscriber** field.

## View subscriptions for the departments you manage

### Applies to User Roles:

Self-Service

User

You can view subscriptions for services used by departments you manage from the Self-Service home page. The list of subscriptions displays both shared services and individually assigned configuration items (CIs). Subscriptions can include service level agreements (SLAs), history, custom options, and pending change requests.

To view subscriptions for the departments you manage, follow these steps:

1. Click **Subscriptions > For Departments I Manage** on the Self-Service home page. A list of subscriptions for the department opens.
2. Select a name to view the service description, status, history, and Service SLA.
3. In the **Service SLA** field, click the **Find Related Information** button to view a detail screen that contains the Agreement ID, Title, and Description.
4. Click **Cancel**, and then click **Back** to return to the list of service subscriptions.

**Note:** If you manage more than one department, you can see the subscriptions for all the departments.

## Add a subscription

### Applies to User Roles:

Self-Service

User

From the self-service home page, you can request subscriptions to various services listed in Service Catalog.

**Note:** This procedure assumes that your system manages subscriptions from Change Management. If you do not see the options described in this procedure,

it means that your system manages subscriptions from Service Catalog.

To add a subscription, follow these steps:

1. From the self-service home page, click **Subscriptions > For My Use**. A list of all your subscriptions opens.
2. Click **Subscribe** to view to a list of available subscriptions.
3. Select a Service ID to view the details of a subscription.
4. Type a reason for subscribing to this service.
5. Click **Subscribe**. A list of all your subscriptions opens. The status of the service is now set to **Requested**.
6. Click the name of the subscription you added to view its status, history, and any comments you added.
7. Click **Back** to return to the list of your subscriptions.

## Add a subscription for the departments you manage

### **Applies to User Roles:**

Self-Service

User

On the self-service home page, you can request subscriptions to various services listed in Service Catalog for departments you manage.

**Note:** This procedure assumes that your system manages subscriptions from Change Management. If you do not see the options described in this procedure, it means that your system manages subscriptions from Service Catalog.

To add a subscription for the departments you manage, follow these steps:

1. Click **Subscriptions > For Departments I Manage** on the self-service home page. A list of your department subscriptions opens.
2. Click **Subscribe**.

3. If you are the department requestor for more than one department, select a department name from the list.
4. Select a Service ID from the list of available subscriptions to view the details of that subscription.
5. Type a reason for subscribing to this service.
6. Click **Subscribe**. A list of your department subscriptions opens. The status of the service is now set to **Requested**.
7. Click the name of the subscription you added to view its status, history, and any comments you added.
8. Click **Back** to return to the list of your subscriptions.

## Subscribe to a service you canceled previously

### Applies to User Roles:

Self-Service

User

You can subscribe to a previously canceled service from the Self-Service home page.

**Note:** This procedure assumes that your system manages subscriptions from Change Management. If you do not see the options described in this procedure, then your system manages subscriptions from Service Catalog.

To subscribe to a service you canceled previously, follow these steps:

1. Click **Subscriptions > For My Use** on the Self-Service home page. A list of your subscriptions opens.
2. Select a name to view the subscription detail for the canceled service.
3. Click **Subscribe**.
4. Type a reason for resubscribing to this service.
5. Click **OK**. You return to the list of all your subscriptions. The status of the subscription is now set to **Requested**.

6. Click the name of the subscription you added to view its status, history, and any comments you added.
7. Click **Back** to return to the list of all your subscriptions.

## Cancel a subscription

### **Applies to User Roles:**

Self-Service

User

You can cancel a subscription to a service you no longer need from the Self-Service home page.

**Note:** This procedure assumes that your system manages subscriptions from Change Management. If you do not see the options described in this procedure, then your system manages subscriptions from Service Catalog.

To cancel a subscription, follow these steps:

1. Click **Subscriptions > For My Use** on the Self-Service home page. A list of your subscriptions opens.
2. Select a name to view the subscription details for the service you want to cancel.
3. Click **Unsubscribe**.
4. Type a reason for unsubscribing to this subscription.
5. Click **OK**. You return to the list of all your subscriptions. The status of the subscription is now set to **Cancellation Requested**.
6. Click the name of the subscription you canceled to view a detail of the status, history, and the comments you added.
7. Click **Back** to return to the list of your subscriptions.

## Cancel a subscription for the departments you manage

### **Applies to User Roles:**

Self-Service

## User

You can cancel a subscription to a service used by the departments you manage from the Self-Service home page.

**Note:** This procedure assumes that your system manages subscriptions from Change Management. If you do not see the options described in this procedure, then your system manages subscriptions from Service Catalog.

To cancel a subscription for the departments you manage, follow these steps:

1. Click **Subscriptions > For Departments I Manage** on the Self-Service home page.  
A list of your department subscriptions opens.
2. Select a name to view the subscription details for the service you want to cancel.
3. Click **Unsubscribe**.
4. Type a reason for unsubscribing to this subscription.
5. Click **OK**. You return to the list of all your subscriptions. The status of the subscription is now set to **cancellation Requested**.
6. Click the name of the subscription you canceled to view its status, history, and any comments you added.
7. Click **Back** to return to the list of your subscriptions.

## Define which services are available for a subscription

### Applies to User Roles:

#### System Administrator

In the Change Management subscription model, users can only subscribe to business services for which you have explicitly allowed subscriptions. If you are using the Service Catalog subscription model, you manage subscriptions by adding or removing business services from the catalog.

To define which services are available for a subscription, follow these steps:

1. Click **Configuration Management > Resources > Search Cls.**
2. Use search or advanced search to find one or more records. In the **Type** field list, select **Business Service**.
3. Select the Business Service definition record for the service to which you want to allow user subscriptions.
4. Check the **Allow Subscriptions** check box. Users can now subscribe to this service.
5. Click **Save**.

## Define a department requestor for subscriptions

### Applies to User Roles:

System Administrator

You can grant specific users the right to request subscriptions for their department. Only these users can add new subscriptions for the department, but all users in the department can view the subscribed records.

To define a department requestor for subscriptions, follow these steps:

1. Click **System Administration > Base System Configuration > Departments**.
2. Use search or advanced search to find one or more records.
3. Open the Department Data record for the department name that requires a requestor definition.
4. In the **Department Requestors** field, type the names of the users who are allowed to request services for the department.
5. Click **Save**.

## View the subscribers for a subscription

### Applies to User Roles:

System Administrator

When a power user views a Contacts record or a Department record, a Subscription tab is displayed. The Subscription tab displays all of the subscriptions for personal subscriptions and department subscriptions.

When the Subscription tab is available, you can define services and department requestors; add subscriptions and administer subscriptions; and view subscribers and related changes.

To view the subscribers for a subscription, follow these steps:

1. Click **Configuration Management > Resources > Search CIs**.
2. Use search or advanced search to find one or more records.
3. Select the target record.
4. Open the **Subscribers** section. A list of subscribers with the types of subscriptions (individual or department) and their statuses is opened.
5. Click a **Subscriber** in the list to display the subscription details.

## Administer subscriptions

### Applies to User Roles:

Configuration Administrator

System Administrator

You can manage the subscriptions of other users to define what services are available to individual users and department requestors. You can also view all the personal and department subscriptions to a particular record.

To administer subscriptions, follow these steps:

1. Click **Configuration Management > Resources > Subscriptions**.
2. Use search or advanced search to find one or more records.
3. Select the record with subscriptions you want to manage.
4. Each subscription contains the following information:
  - Subscription ID (cannot edit)
  - CI



- **Status**
  - **Subscriber**
  - **Subscriber Type**
  - **History (cannot edit)**
  - **Related Changes (view change record)**
  - **Service SLA**
5. Add or modify the subscription fields as needed.
  6. When you complete your changes, click **Next** to select another record. You are prompted to save your changes.
  7. Click **Save** to save your changes and exit the record.

**Caution:** If you click **Back**, you exit the record without saving your changes.

## View related changes for a subscription

### **Applies to User Roles:**

Self-Service

User

You can view changes related to your individual or department subscriptions from the Self-Service home page.

To view related changes for a subscription, follow these steps:

1. Click **Subscriptions > For My Use** or **For Departments I Manage** on the Self-Service home page. A list of your individual or department subscriptions opens.
2. Select a name record to view the description detail.
3. Select a change number to view the change record.

4. A subscription that has one or more related changes contains the following information:

- Change No.
- Status
- Approval Status
- Change Coordinator
- Phase
- Subscription Action

## Configuration item actual states

By default, HP Service Manager only stores and displays the expected or managed state of CIs. The information Service Manager displays in the Configuration Management form is essentially the definitive list of attributes that the CI should have. However, the actual state of the CI may differ from the expected state.

To view the actual state of the CI, you must first create an integration to an HP Universal CMDB server. The HP Universal CMDB server periodically discovers the actual state of CIs and records the actual state in the Configuration Management database. Service Manager accesses the actual state information by using a Web services connection. Service Manager sends the CI ID to the HP Universal CMDB server and receives a full list of the attributes for that CI. Service Manager displays the CI attributes in the Actual State section of the Configuration Management form.

If a Service Manager CI does not have a matching CI in the HP Universal CMDB server, then Service Manager does not display the Actual State section. For example, you may track office furnishing CIs in Service Manager that cannot be discovered and tracked in the HP Universal CMDB.

## View the actual state of a configuration item

### **Applies to User Roles:**

Configuration Manager

Configuration Administrator

Configuration Auditor

This procedure requires that your HP Service Manager system has an active integration to an HP Universal CMDB server.

To view the actual state of a configuration item, follow these steps:

1. Click **Configuration Management > Resources > Search CIs**.
2. Use search or advanced search to find one or more records.
3. Select the CI with the actual state you want to see.
4. From the CI detail form, open the **Actual State** section. Service Manager displays the actual state of the CI, as well as its UCMDB Id value.

**Note:** The **Actual State** section is only visible if your system has an active integration to an HP Universal CMDB server and the CI has a matching entry in the Configuration Management database. Service Manager does not display the **Actual State** section if there is no matching CI in the HP Universal CMDB server.

## Set the expected state of a configuration item

This procedure provides a standard process to change the state of one or multiple configuration items in HP Service Manager. This procedure is also applicable if your Service Manager system has an active integration to an HP Universal CMDB server.

To set the expected state of one or multiple configuration items, follow these steps:

1. Log on to Service Manager.
2. Go to **Change Management**, create a new change record or open an existing change record.
3. Make sure the change record has one or multiple affected configuration items specified. You will set the expected change states of some attributes of these configuration items.
4. Click **More** or the **More Actions** menu, and then select **Set Expected States**. The Set Expected Change State wizard opens.

**Note:**

- The wizard can be started only when at least one configuration item has been specified in the **Affected CIs** field.

- If the change record associates with multiple configuration items, the Select CI wizard opens first and you need to select the configuration items for which you want to set the expected state.

5. There are two options in the Set Expected Change State wizard: **Select From a Baseline** and **Set Attribute Name and Values**. The **Set Attribute Name and Values** option is selected for the following steps. For detailed information about how to set the baseline for a configuration item, see ["Associate a configuration item \(CI\) to a baseline" on page 79](#).
6. Select **Set Attribute Name and Values** and then click **Next**.

**Note:** If the selected configuration items belong to various CI types, only attribute fields listed in the **device** table can be planned. If the selected configuration items have the same CI type, new attribute fields can be planned for all attributes of this CI type.

7. In the Attribute Names and Values page, you can add new fields, edit fields or remove fields.
  - To add a new field, follow these steps:
    - i. Click **Add New Field**. The Baseline Attributes page opens.
    - ii. Select a field name from the **Field in** drop-down list, and then type or select the corresponding value in the **Value** field. Click **Next**.

**Tip:**

- The supported field types include simple data type (string, number, logical and date), array field of simple data types and array of structure field <sup>1</sup>. For detailed information about how to configure the value of array of structure field, see ["Example: How to plan an array of structure field" on the next page](#).
- To plan the new attribute values, click the **Format Based Changes** button.

- iii. The new field is displayed in the Attribute Names and Values page. Click **Finish**.
- To edit an existing field, select the field you want to edit and then click **Edit Field**.
  - To remove a field, select the field you want to remove and then click **Remove Field**.

All attribute changes are saved in the `dataModEvent` tables. You can open the change record and review the planned attribute change in the **Associated CIs** section and the **Status** is **Proposed**.

8. When the change is approved and implemented, the status of the planned attribute change is **Planned**.
9. Click the attribute change record. In the CMDB Data Change Event page, change the **Status** from **Planned** to **Implemented**.
10. If your Service Manager system has an active integration to an HP Universal CMDB server, HP Universal CMDB detects the change that is implemented as planned and the value is pushed to Service Manager later. If the new value is the same as planned, the **Status** is automatically changed to **Validated**.

If your Service Manager system is not integrated to an HP Universal CMDB server, you can also manually check whether the actual new values are the same as planned or not and set the **Status** to **Validated**.

11. Close the change and the validated planned changes will be applied to the attribute values of the configuration item in Service Manager.

The whole process of setting the expected state for the configuration item is complete.

<sup>1</sup>Array of structure field refers to a field which is an array. The element type within the array is structure, which contains simple data types.

## Example: How to plan an array of structure field

When planning array of structure fields, you need to do it field by field with the structure and combine these fields together to perform validation and apply the values.

Take the **addlIPAddr** field in the `computer` table as an example. As a typical example of array of structure fields, this field consists of **addlIPAddress** and **addlSubnet** sub fields. The following table lists the original values.

<b>addlIPAddress</b>	<b>addlSubnet</b>
192.168.0.1	255.0.0.0
192.168.0.2	255.0.0.1
192.168.0.3	255.0.0.2

Change the values as listed in the following table.

<b>addIPAddress</b>	<b>addSubnet</b>
192.168.0.4	255.0.0.3
192.168.0.5	255.0.0.4
192.168.0.6	255.0.0.5

You need to plan for **addIPAddress** and **addSubnet** separately, and then change the values as listed in the following table.

<b>Field Name</b>	<b>Old Value</b>	<b>New Value</b>
addIPAddress	{“192.168.0.1”, “192.168.0.2”, “192.168.0.3” }	{“192.168.0.4”, “192.168.0.5”, “192.168.0.6” }
addSubnet	{“255.0.0.0”, “255.0.0.1”, “255.0.0.2”}	{“255.0.0.3”, “255.0.0.4”, “255.0.0.5”}

**Tip:** To be more straightforward and much easier, you can click the **Format Based Changes** button to plan array of structure fields.

## Configuration items

In Configuration Management, a company's assets are referred to as Configuration Items (CIs) and comprise items of value to the company, such as software, hardware, or furnishings. Configuration Management identifies, defines, and tracks organizational CIs by creating and managing records for those items. HP Service Manager CI records are stored in the device table and are therefore tracked through a device record in the Configuration Management application.

CIs can vary in complexity, size, and type. For example, objects or processes within the Service Desk infrastructure are recorded in the database as Configuration Items (CIs). A CI can include an entire system with all hardware, software, and documentation, a single software application, a software license, a hardware device, or office furnishings.

## Service assets

A service asset is any resource or capability that could contribute to the delivery of a service. You can select an asset to be managed for operational, financial, or contractual purposes. Once you select an asset for management, it becomes a Configuration Item (CI). Assets can be one of the following types:

- Management
- Organization
- Process
- Knowledge
- People
- Information
- Applications
- Infrastructure
- Financial capital

## Baselines

Baselines are an optional feature of Configuration Management that allow you to define a set of attributes that all instances of a configuration item (CI) should have. A baseline is a template CI that defines the expected or authorized attributes of a CI. Typically, a baseline only describes the attributes that you expect CIs to share in common and does not include attributes that you expect to vary. For example, a baseline describing PCs might require that all PC CIs are assigned the same model number and operating system version but not the same owner or serial number. In this example, the model number and the operating system would be authorized attributes of the baseline, while the owner and the serial number would be individually managed attributes.

**Note:** Baseline records replace baseline configuration item groups from previous versions of HP Service Manager. The upgrade process converts existing baseline configuration item groups to query groups.

## Baseline records and CI records

Baseline records are separate from the CI records they manage. You must first create a baseline record before you can associate it with one or more CIs. All baseline records must have a name, a list of authorized attributes, and a state. Baseline records can optionally have a version number, which administrators can configure from the Configuration Management environment record. A baseline record's status determines whether you can add or edit attributes, and whether you can associate CIs

to the baseline. After you authorize a baseline record, its attributes are locked and you can only associate or remove CIs from the baseline.

## CI record baseline section

Each CI record has a baseline section that lists details about the baseline, if any, that is currently managing the CI. The baseline section lists the name of the managing baseline, its version, and a list of the attribute names and attribute values the baseline expects. If the CI has a value other than the baseline value, Service Manager displays a warning message that the Configuration Item is out of compliance with Baseline.

## CI compliance with baseline

It is up to a Configuration Management manager to determine whether a CI that is out of compliance with its baseline is acceptable or requires a change. Keep in mind that both the CI record and the baseline record describe the expected or managed state of a CI. A baseline record is intended to describe the expected state across many similar items. A CI record describes the expected state of an individual item.

## CI managed states

There may be cases where it is acceptable for an individual CI to have a different managed state than other CIs in the same baseline. For example, you might have a baseline requiring that all application servers have 8 GB of RAM. However, you may also want one of your application servers, the Web server, to have 16 GB of RAM. You may want to authorize this exception to the baseline rather than create a new baseline record to describe just one CI.

## Baseline attributes

Each baseline record requires one or more baseline attributes. Baseline attributes are a list of fields that have a predefined expected value. Each baseline attribute lists both an attribute name and an attribute value. The attribute name is the field that contains the expected value. The attribute value is the value HP Service Manager expects to find in the CI record.

**Note:** To make selecting expected values easier, Service Manager provides lists or lookups to help you select the attribute values of some fields. If an attribute value provides such an option, you can either select an existing value or type in a new value.



## CI compliance with baseline

If a CI field matches the expected value in the baseline, then that field is in compliance with the baseline. If a CI field does not match the expected value in the baseline, then the field is out of compliance with the baseline, and Service Manager marks the entire CI record as out of compliance with the baseline. For example, suppose you have a baseline record that manages PCs and that contains attributes for the operating system, operating system version, and manufacturer fields. If any one of these fields has a value other than the value listed in the baseline record's attribute fields, then the CI record for the PC is out of compliance with the baseline.

## Changing baseline attributes

You can only change baseline attributes when the baseline record is in the analysis, design, or develop status. After a baseline record reaches the authorized state, the baseline attributes for that version cannot be changed. To change attributes of an authorized baseline requires either creating a new baseline version or creating an entirely new baseline record. Baseline records in the retiring and retired status also require a new version or a new record to change baseline attributes.

## Selecting baseline device types

When you create a baseline, you select the device type that manages the baseline. Each device type maps to a Service Manager join table that contains a list of attributes relevant to the CI. For example, if you select the device type computer, then you can select attributes relevant to computers such as OS manufacturer, BIOS manufacturer, or display manufacturer.

When selecting baseline attributes, you can select fields from either the device table or the associated device type join table. However, after you create a baseline record, you cannot change the baseline's device type. You must create a new baseline record and select a different device type to view attributes from a different device type.

## Baseline statuses

Each baseline record requires a status, which determines where the record is in its life cycle. It is also required that you indicate whether the changing of baseline attributes is allowed and whether associating CIs is allowed. Baseline records list the following status indicators in sequential order.

Status	Sequence	Description	Allows editing attributes?	Allows associating CIs?
<b>Analysis</b>	1	ITIL statuses that you can use to evaluate, plan, and implement your baseline record. Baselines in any of these statuses allow you to add, remove, or change attributes and attribute values, but prevent you from associating CIs because associated changes are not yet authorized.	<b>Yes</b>	No
<b>Design</b>	2		<b>Yes</b>	No
<b>Develop</b>	3		<b>Yes</b>	No
<b>Authorized</b>	4	This status indicates that the baseline is ready for use with your Configuration Management and Change Management processes. You can no longer edit attributes and attribute values without creating a new version of baseline. You can associate or disassociate CIs to an authorized baseline.	No	<b>Yes</b>
<b>Retiring</b>	5	This status indicates that you are disassociating CIs from this baseline and associating them to another baseline or version. After all CIs have been disassociated with this baseline, it is ready for the next status.	No	No
<b>Retired</b>	6	This status indicates a past baseline. Baselines in the retired status should not be associated with any CIs. All CIs should be associated with another version or baseline.	No	No

You can only change the baseline status from a lower sequence to a higher sequence. For example, you can change a baseline in the analysis status (sequence 1) directly to the authorized status (sequence 4), but you cannot change a retired baseline (sequence 6) to the analysis state (sequence 1). If you want to create an editable copy of an existing baseline, you can create a new version of the baseline. The new version starts with all the same attribute names and values as the old baseline, but the status returns to the analysis state.

## Authorize a baseline

### Applies to User Roles:

System Administrator

To associate configuration items (CIs) to a baseline record, you must first authorize the baseline record. After you authorize a baseline record, you can no longer change its attributes, but you can create a new version.

To authorize a baseline, follow these steps:

1. Click **Configuration Management > Resources > Baseline**.
2. Use search or advanced search to find one or more records.
3. Select the baseline record you want to authorize from the list of search results. HP Service Manager displays the details of the selected baseline record.
4. Click **Authorized** in the **Status** field.

**Note:** You can only authorize baseline records that are currently in the **Analysis, Design, or Develop** states.

5. Click **Save**. Service Manager authorizes the baseline record, and you can now associate CIs to it.

## Retire a baseline

### Applies to User Roles:

System Administrator

You can retire a baseline record when you no longer want to associate configuration items (CIs) to it. After you retire a baseline record, you can no longer associate CIs to it, but you can create a new version.

**Note:** You can only retire a baseline record that does not have any associated CIs. You can always retire baseline records that are in the **Analysis, Design, and Develop** states because those states do not have associated CIs. You must disassociate CIs from a baseline before you can retire the baseline.

To retire a baseline, follow these steps:

1. Click **Configuration Management > Resources > Baseline**.
2. Type any search criteria that you want to use to find the baseline record.
3. Use search or advanced search to find one or more records.
4. Select the baseline record that you want to retire from the list of search results. HP Service Manager displays the details of the selected baseline record.

5. Click **Retiring** in the **Status** field.
6. Click **Save**. Service Manager marks the baseline record as **Retiring**, and you can now disassociate CIs from it.
7. Search for CIs that are associated to the baseline you want to retire. To do this, follow these steps:
  - a. Click **Configuration Management > Resources > Search CIs**.
  - b. Click the **Advanced Filter** tab.
  - c. Click the **Add New Filter Criteria** button. Service Manager opens the Add Filter Criteria wizard.
  - d. Select the following filtering criteria.

Field in Configuration Item	Comparison	Value
<b>Baseline</b>	Equals	<Baseline name>

For <Baseline name>, select the baseline you want to retire.

- e. Click **Search**. Service Manager opens a list of CI records that are associated to the baseline you want to retire.
8. Disassociate the CIs from the baseline you want to retire. To do this, follow these steps:
  - a. Click **Mass Update**. Service Manager opens a list of fields you can update.
  - b. Select the following mass update values.

Caption	Value
<b>Baseline</b>	<New baseline name>
<b>Baseline Version</b>	<New baseline version number>

For <New baseline name>, type the name of the new baseline you want to manage the CIs.

For <New baseline version number>, type the version number of the new baseline you want to manage the CIs. Do not add this field if you are not using baseline versions.

- c. Click **Execute**. Service Manager updates the CI records to use the new baseline name and version.

9. Retire the baseline. To do this, follow these steps:
  - a. Click **Configuration Management > Resources > Baseline**.
  - b. Use search or advanced search to find one or more records.
  - c. Select the baseline record you want to retire from the list of search results. Service Manager displays the details of the selected baseline record.
  - d. Click **Retired** in the **Status** field.

**Note:** Service Manager displays an error message if you attempt to retire a baseline that still has associated CIs.

- e. Click **Save**. Service Manager marks the baseline record as retired.

## Baseline versions

You can enable baseline versions to manage how many different versions are available for a given baseline name. HP Service Manager controls baseline versions from the Configuration Management environment record. By enabling the **Enforce Baseline Version Control** option, you can set the number of available levels (the number of decimal separators), the initial value of each level, and the number of increments available for each level. The following table describes how the baseline version control fields determine the maximum number of versions available for a baseline.

Field name	Default value	Possible values	Description
<b>Available level</b>	5 levels	1 to 5 levels. Service Manager only supports up to 5 levels.	The number of decimal places of the baseline version.
<b>Initial value</b>	1.0.0.0.0	0-9. The initial value should not be higher than the maximum increment.	The starting value of the version level.
<b>Maximum increment</b>	5	0-9. The maximum value should be greater than or equal to the initial value.	The maximum value of the version level.

You can create a maximum of ten thousand (10,000) baseline versions from 0.0.0.0.0 to 9.9.9.9.9. To minimize the number of baseline versions, you can delete one or more of the higher available levels. For example, to restrict the maximum number of baseline versions to one thousand (1,000), you can delete levels 4 and 5, but not levels 1 and 2.

A new baseline version must be of the same device type and attributes as the original version, but the new version is a separate record that starts in the analysis status. You can modify baseline attributes or attribute values as needed in the new baseline record, but the device type is fixed.

You can only create a new baseline version from the most recent version of the baseline record. For example, if you have a baseline consisting of three versions (1.0.0.0.0, 1.0.0.0.1, and 1.0.0.0.2), then you can only create a new baseline version from the 1.0.0.0.2 baseline record. The baseline record can be in any status.

## Create a new baseline version

### Applies to User Roles:

System Administrator

You can create a new baseline version to change the attributes managed by the baseline. You can only create a new version from the most recent version of a baseline record.

To create a new baseline version, follow these steps:

1. Click **Configuration Management > Resources > Baseline**.
2. Use search or advanced search to find one or more records.
3. Select the most recent version of the baseline record from the list of search results. HP Service Manager displays the details of the selected baseline record.
4. Click **Add Version**. Service Manager opens the Baseline Attributes wizard.
5. Follow the onscreen instructions to modify attributes or attribute values as needed. Service Manager creates a new baseline record in the **Analysis** state. The baseline record version increments to the version number you specified.

## Create a baseline

### Applies to User Roles:

System Administrator

You can create a baseline record to manage the expected state of multiple related CIs. Typically, a baseline record contains attributes that CIs share in common.

To create a baseline record, follow these steps:

1. Click **Configuration Management > Resources > Baseline**. The Search Baseline Records form opens.
2. Click **New**. The Add New Baseline wizard opens.
3. Follow the onscreen instructions to create the baseline, and then click **Save**. HP Service Manager creates a baseline record in the **Analysis** state.

## Associate a configuration item (CI) to a baseline

### Applies to User Roles:

Configuration Manager

Configuration Administrator

A System Administrator must first create and authorize a baseline record before you can associate a configuration item (CI) to it. A CI can only be associated with one baseline record at a time.

**Tip:** You can use Mass Update to associate multiple CIs to a baseline record.

To associate a CI to a baseline record, follow these steps:

1. Click **Configuration Management > Resources > Search CIs**.
2. Use search or advanced search to find one or more records.
3. Select the CI record that you want to associate to a baseline record from the list of search results. HP Service Manager displays the details of the selected CI record.
4. Open the **Baseline** section.
5. From the Baseline field, click the **Fill** button. Service Manager opens a list of available, authorized baselines or displays an error message if you do not have any authorized baselines.
6. Double-click the baseline record that you want to use to manage the CI. Service Manager displays the baseline name and attributes.
7. Click **Save**. Service Manager associates the CI to the baseline record and compares the baseline record attributes to the CI attributes. If any of the CI attributes differ from the baseline attributes, Service Manager displays the warning "Configuration Item is out of compliance with Baseline."

## Associate multiple configuration items (CIs) to a baseline

**Applies to User Roles:**

Configuration Manager

Configuration Administrator

A System Administrator must first create and authorize a baseline record before you can associate a configuration item (CI) to it. A CI can only be associated with one baseline record at a time.

To associate multiple CIs to a baseline record, follow these steps:

1. Click **Configuration Management > Search CIs**.
2. Use search or advanced search to find one or more records.
3. Click **Mass Update**. HP Service Manager displays a list of fields you can update.
4. Select the following mass update values.

Caption	Value
<b>Baseline</b>	<New baseline name>
<b>Baseline Version</b>	<New baseline version number>

For <New baseline name>, type the name of the new baseline record that you want to manage the CIs.

For <New baseline version number>, type the version number of the new baseline record that you want to manage the CIs. Do *not* add this field if you are not using baseline versions.

5. Click **Execute**. Service Manager updates the CI records to use the new baseline name and version.

## Change baseline attributes

**Applies to User Roles:**

System Administrator

You can change the attributes that make up a baseline record by selecting different fields from the device type join table. You cannot change a baseline record's device type after you create it. If you want to select a different device type, you must create a new baseline record.



**Note:** You can only modify attributes of baseline records in the **Analysis**, **Design**, and **Develop** states.

To change baseline attributes, follow these steps:

1. Click **Configuration Management > Resources > Baseline**.
2. Use search or advanced search to find one or more records.
3. Select the baseline record that has attributes you want to change from the list of search results.
4. Click **Modify Attributes**. HP Service Manager opens the Baseline Attributes wizard.
5. Follow the onscreen instructions to complete the wizard. Service Manager updates the baseline record to use the new attributes you select.

**Note:** Service Manager only displays fields from the device table and the associated device type.

## Determine if a configuration item (CI) is in compliance with its baseline

### Applies to User Roles:

Configuration Manager

Configuration Administrator

If you associate a configuration item (CI) to a baseline, HP Service Manager displays whether it is compliant with the baseline, and if not, Service Manager shows you which attributes are out of compliance.

To determine if a CI is in compliance with its baseline, follow these steps:

1. Click **Configuration Management > Resources > Search CIs**.
2. Use search or advanced search to find one or more records.
3. Select the CI whose baseline compliance you want to see from the list of search results.
4. Open the **Baseline** section. Service Manager displays the baseline attributes managing the CI. If

one or more baseline attributes is out of compliance, Service Manager displays the error message "Configuration Item is out of compliance with Baseline".

## View all configuration items (CIs) out of compliance with a baseline

### Applies to User Roles:

Configuration Manager

Configuration Administrator

In certain instances, you may want to perform a one-time advanced search in order to view all CIs that are out of compliance with a baseline. If you expect to perform this search frequently, consider creating a view instead.

To view all CIs out of compliance with a baseline, follow these steps:

1. Click **Configuration Management > Search CIs**.
2. Use search or advanced search to find one or more records.
3. Click the **Advanced Filter** tab, and then click **Add New Filter Criteria**. The Add Filter Criteria wizard opens.
4. Select the following filtering criteria.

Field in Configuration Item	Comparison	Value
<b>Baseline Noncompliant</b>	Equals	<i>True</i>
<b>Baseline</b>	Equals	<i>&lt;Baseline name&gt;</i>
<b>Baseline Version</b>	Equals	<i>&lt;Baseline version number&gt;</i>

For *<Baseline name>*, select the name of the baseline you want to query for compliance. Omit this search criteria if you want to search all baselines.

For *<Baseline version number>*, type the version number of the baseline you want to query. Omit this criteria if you are not using baseline versions.

5. Click **Search**. HP Service Manager opens a list of the CI records that are out of compliance with the specified baseline.

## Configuration item groups

A business enterprise may have a large number of Configuration Items (CIs) to acquire, install, repair, or manage in a variety of activities. Because many of these CIs are based on the same model or share other defining characteristics, creating CI groups is a simple way to classify CIs, to simplify tracking, and to manage changes.

Making global changes to CI groups is easier than updating CIs one at a time. Change Management can automatically open tasks for all CIs in a group. Service Level Management enables you to attach a CI group to a service level agreement (SLA) instead of attaching each CI individually to an SLA. Thereafter, Service Level Management can generate response and outage information at a CI group level.

## Group types

Groups can be static, such as all monitors purchased on the same day, or dynamic, such as all monitors on the third floor. Configuration items can be grouped in many ways. For example, you might create the following groups:

- All printers
- Laser printers
- Ink jet printers
- IBM® printers
- Xerox® printers
- Out-of-service printers

## Cigroup table

The cigroup table consists of all information used to define items in a CI group and a list of items included in the group. There is one record for each CI group defined.

Characteristics of the cigroup table:

- Contains the group name.
- The logical.name field is the unique identifier in the dbdict for the cigroup table.

- For list-based groups, contains a list of members.
- Baseline groups and Query-based groups are dynamic and therefore do not contain members.
- Specifies a group type, such as a query-based group, a list-based group, or a baseline group.
- If the group is a baseline group, it contains the baseline version and state. This does not apply to list-based or query-based groups.

**Note:** When setting thresholds for baseline group versioning, make sure that you set an appropriate number of versioning levels to grow with your environment. If you later need more version levels than specified at setup, you can increase the number of levels without recreating entire groups and relationships.

## Types of Configuration Item groups

To search for Configuration Items (CIs), you can create a search query and the system returns a list of CIs that match your search criteria. You can use a list group to create a group of CIs. A wizard leads you through the process after you enter the applicable search criteria and the system generates a list of records for the search criteria.

You can save and edit this search to regenerate a list or group of CIs as one of the following types:

- **List group:** A static snapshot of all the CI records that appears when you save a list generated by your selected search criteria. Configuration Management saves enough information to reconstruct the list with the same components each time that you view the list. The list does not add new CI records or remove obsolete CI records.
- **Query group:** A dynamic list of CI records that appears when you save a query generated by your selected search criteria. Configuration Management saves the query to regenerate the list. Depending on the query parameters, the components can vary each time that you view the list. New CI records can appear; obsolete CI records can disappear from the generated list.

## Create a configuration item group

### **Applies to User Roles:**

Configuration Manager

Configuration Administrator

Configuration Auditor

To create a configuration item group, follow these steps:

1. Click **Configuration Management > Resources > Search CIs**.
2. Use search or advanced search to find one or more records. In the **Type** field list, select **CI Group** and then click **Search**.
3. From the record list, click **More** or the **More Actions** icon and then choose **Create/Edit AdHoc CI Groups**.
4. In the Manage Configuration Item Groups wizard, select **Create Query group** or **Create List Group** and then click **Next**.
5. Enter a group name and then click **Next**.
6. Select or deselect **Display group record**.
7. Click **Finish**.
8. Click **Save & Exit**.

## Edit a configuration item group

### Applies to User Roles:

Configuration Manager

Configuration Administrator

Configuration Auditor

To edit a configuration item group, follow these steps:

1. Click **Configuration Management > Resources > Search CIs**. The Search Configuration Item Records form opens.
2. In the **Type** field list, select **CI Group**. Use search or advanced search to find one or more records.
3. Select a CI group.
4. Click **More** or the **More Actions** icon.
5. Select **Edit AdHoc CI Groups**.

6. Select either **Add Configuration Item to list** or **Remove Configuration Item from list** and then click **Next**.
7. Choose a CI to add or remove.
8. Click **Save**.
9. Click **OK**.

## View the members of a configuration item group

### **Applies to User Roles:**

Configuration Manager

Configuration Administrator

Configuration Auditor

To view the members of a CI group, follow these steps:

1. Click **Configuration Management > Search CIs**.
2. Use search or advanced search to find one or more records. In the **Type** field list, select **CI Group**.
3. Select a CI group.
4. Click **Show Members**. Configuration Management generates a record list of current group members.
5. Select any record to view its details.
6. Click **Save & Exit**.

## View associated configuration item groups

### **Applies to User Roles:**

Configuration Manager

Configuration Administrator

Configuration Auditor

To view associated configuration item groups, follow these steps:

1. Click **Configuration Management > Search CIs**.
2. Use search or advanced search to find one or more records. In the **Type** field list, select **CI Group**.
3. Select a CI group.
4. Click **More** or the **More Actions** icon and then choose **Show Associated Groups**.
5. Click **Save & Exit**.

## Ad hoc groups

An ad hoc group is a query that produces a list of items that is not associated within a hierarchical or peer relationship within Configuration Management. Ad hoc groups can not be related to service level agreements or processes.

An ad hoc group consists of components that you can associate at random, or that have a special relationship. For example, AdHocHardware might be the name of a group of all the Configuration Items (CIs) temporarily assigned to a user to complete a special assignment. By collecting the CIs into an ad hoc group, you maintain a global strategy for addressing and managing the special assignment CIs within the group.

You can move the CIs in an ad hoc group to another group and they are not subject to change control.

## Ad hoc group attributes

The following table lists the ITIL attributes of a Configuration Item (CI) in an ad hoc group.

Attribute	Description
<b>CI name</b>	The unique name for the selected CI by type.
<b>Comment</b>	Text comments, such as a description of how the selected CI version is different from the former version.
<b>Unique ID</b>	A unique number that identifies the CI. For example, a software copy number, a serial number, or an employee ID.
<b>Relationships</b>	Describes the relationship of the selected CI to other CIs that are not parent or child CIs. For example, a description might be "uses the xxxx CI," "connects to the xxxx CI," "accesses the xxxx CI," and so on.
<b>Type</b>	Describes the CI type with more detailed category information, such as software bundle, hardware device, employee name, or vendor/supplier name.

## Baseline configuration groups

Baseline configuration groups are obsolete in HP Service Manager and are replaced with baseline records. Service Manager converts any existing baseline configuration groups in your system to configuration item query groups.

## Business service groups

A business service group collects information about all resources that support an enterprise business service. The group lists the Configuration Items (CIs), documents, resources, service level agreements (SLAs), and other components. A business service group can contain:

- One or more SLAs
- Owners, such as a Change Manager or a Problem Manager
- CIs that have hierarchical relationships with other CIs

The CIs in a business service group are usually subject to change control.

## Business service group attributes

The following table lists the ITIL attributes of a Configuration Item (CI) in a business service group.

Attribute	Description
<b>Category</b>	CI classification, such as hardware, software, documentation, or employee.
<b>Change numbers</b>	Contains the identification numbers of all change records that affect the selected CI.
<b>Child CI relationship</b>	The unique identifiers for all child CIs of the selected CI.
<b>CI name</b>	The unique name for the selected CI by type.
<b>Comment</b>	Contains text, such as a description of how the selected CI version is different from the former version.
<b>Unique ID</b>	A unique number that identifies the selected CI. For example, a software copy number, a serial number, or an employee ID.
<b>Incident numbers</b>	The identification numbers of all incident records that affect the selected CI.
<b>Location</b>	The physical location of the CI. For example, software might be on a CD in a media



Attribute	Description
	library; a hardware CI would be in a room or office, on a specific floor, and in a specific building.
<b>Owner responsible</b>	Name or title of the person responsible for the CI.
<b>Parent CI relationship</b>	The unique identifier for the parent CI of the selected CI.
<b>Problem numbers</b>	The identification numbers of all problem records that affect the selected CI.
<b>Relationships</b>	Describes the relationship of the selected CI to other CIs that are not parent or child CIs. For example, a description might be "uses the xxxx CI," "connects to the xxxx CI," "accesses the xxxx CI," and so on.
<b>Responsibility date</b>	The date that the owner took responsibility for the CI.
<b>RFC numbers</b>	The identification numbers of all change request records that affect the selected CI.
<b>Status (current)</b>	The current status of the CI, such as test, live, or archive.
<b>Status (scheduled)</b>	The next scheduled status of the CI with the date of (or name of the event that triggers) the status change.
<b>Supply date</b>	When the organization acquired the CI.
<b>Type</b>	Describes the selected CI type with more detailed category information, such as software bundle, hardware device, employee name, or vendor/supplier name.
<b>Version number</b>	The version number of the CI.
<b>SLA numbers</b>	The identification numbers of all Service Level Agreement records that affect the selected CI.

## Add a business service CI record

### Applies to User Roles:

Configuration Manager

Configuration Administrator

Configuration Auditor

To add a business service CI record, follow these steps:

1. Click **Configuration Management > Resources > Search CIs**.
2. Click **New**. The Add New Device wizard opens.
3. Select **Business Service** from the list, and then click **Next**. The New Configuration Item form opens.
4. Enter the information to complete the configuration item (CI) record, and then click **Add**.  
HP Service Manager creates the CI record and assigns it a unique identifier.
5. Click **OK**.

## Update a business services CI record

### **Applies to User Roles:**

Configuration Manager

Configuration Administrator

Configuration Auditor

To update a business services CI record, follow these steps:

1. Click **Configuration Management > Resources > Search CIs**.
2. Use search or advanced search to find one or more records. In the **Type** field list, select **Business Service**.
3. Select a record from the record list.
4. Type new values into the applicable fields in the record.
5. Click **Save & Exit**.

## View related records for a business service CI record

### **Applies to User Roles:**

Configuration Manager

Configuration Administrator

Configuration Auditor

To view related records for a business service CI record, follow these steps:

1. From the Business Service Definition record, click **More** or the More Actions icon.
2. Click **Related**.
3. Click the type of related record that you want to view.  
The menu list includes the following types of related records:
  - Interactions
  - Changes
  - Quotes
  - Incidents
  - Problems
4. Click **Open** to open a new record of the selected type or click **View Existing** to open an existing record of the selected type.

## Create a configuration item group

### Applies to User Roles:

Configuration Manager

Configuration Administrator

Configuration Auditor

To create a configuration item group, follow these steps:

1. Click **Configuration Management > Resources > Search CIs**.
2. Use search or advanced search to find one or more records. In the **Type** field list, select **CI Group** and then click **Search**.
3. From the record list, click **More** or the **More Actions** icon and then choose **Create/Edit AdHoc CI Groups**.
4. In the Manage Configuration Item Groups wizard, select **Create Query group** or **Create List Group** and then click **Next**.
5. Enter a group name and then click **Next**.

6. Select or deselect **Display group record**.
7. Click **Finish**.
8. Click **Save & Exit**.

## View associated configuration item groups

### Applies to User Roles:

Configuration Manager

Configuration Administrator

Configuration Auditor

To view associated configuration item groups, follow these steps:

1. Click **Configuration Management > Search CIs**.
2. Use search or advanced search to find one or more records. In the **Type** field list, select **CI Group**.
3. Select a CI group.
4. Click **More** or the **More Actions** icon and then choose **Show Associated Groups**.
5. Click **Save & Exit**.

## View the members of a configuration item group

### Applies to User Roles:

Configuration Manager

Configuration Administrator

Configuration Auditor

To view the members of a CI group, follow these steps:

1. Click **Configuration Management > Search CIs**.
2. Use search or advanced search to find one or more records. In the **Type** field list, select **CI Group**.

3. Select a CI group.
4. Click **Show Members**. Configuration Management generates a record list of current group members.
5. Select any record to view its details.
6. Click **Save & Exit**.

# Configuration management administrator tasks

This section introduces the configuration management administrator tasks.

## View a service level agreement for a configuration item

### Applies to User Roles:

System Administrator

To view a service level agreement for a configuration item, follow these steps:

1. Click **Service Level Management** > **SLA Administration** > **Availability SLOs**. The Availability Service Level Objective form opens.
2. Click the **Fill** button for the **Affected CI** field, and then select the CI.
3. Click **Search**.
4. If necessary, double-click a record to display it in the SLO Information form.

## Rename a configuration item

### Applies to User Roles:

["Configuration Manager" on page 11](#)

["Configuration Administrator" on page 13](#)

["Configuration Auditor" on page 15](#)

There are many cases in which you need to rename a configuration item (CI). As a best practice, you are recommended to run the Change Management process to modify CI names; alternatively, if HP Universal CMDB (UCMDB) is available, you can directly rename CIs in UCMDB.

Prior to version 9.41, renaming a CI in Service Manager did not trigger automatic updates to the related records, such as CI relationships or records that reference the CI as an affected service or CI.

Starting with version 9.41, when a CI is renamed, Service Manager automatically updates the CI information in all related records (incidents, interactions, changes, and so on) to maintain data integrity across modules.

The process of CI renaming depends on whether you are using the UCMDB integration or Service Manager for Configuration Management.

## If you are using the UCMDB integration

If you are using the UCMDB integration for Configuration Management, use the following CI renaming process:

1. The requestor submits a request to rename a CI (for example, a laptop).
2. The Configuration Analyst creates a request for change in Service Manager for renaming the CI, and then go through the change management process.
3. The Configuration Manager changes the CI name in UCMDB.
4. The UCMDB integration pushes the renamed CI to Service Manager.

## If you are using only Service Manager

If you are using only Service Manager for Configuration Management, use the following CI renaming process:

1. The requestor submits a request to rename a CI (for example, a laptop).
2. The Configuration Analyst creates a request for change in Service Manager for renaming the CI. The change request then goes through the Change Management process.
3. The Configuration Manager changes the CI display name in Service Manager.

**Caution:** Service Manager does not allow duplicate display names for CIs of the same CI type.

## Delete multiple configuration item records

To delete all records with a specified value, follow these steps:

1. Click **Configuration Management > Resources > Search CIs**.
2. Enter the desired value. For this example, type **adv** in the **Display Name** field.
3. Click **Search**.

Service Manager performs the search and displays a list of matching records, if any, in the device.qbe form.

4. If the query produces no matching records or only one matching record, Service Manager does not display a record list.

**Note:** To display the Mass function buttons, you can use a query that returns more than one record.

5. From the tool bar, click **More > Mass Delete** to remove the records in the record list from the database.

Service Manager confirms the deleted request with a prompt screen.

6. Do one of the following:
  - To cancel the delete, click **No**.
  - To confirm the delete, click **Yes**.

Service Manager deletes all records in the list.

- Service Manager performs the Mass Delete function in the foreground, which means your terminal is devoted to this function until it is complete. If you are deleting a large number of records, this may take a while.
- Upon completion, Service Manager returns to the search form and displays the message: "*nnn records deleted from the device file*", where *nnn* is the number of deleted records .

## View the status of a configuration item

To view the status of a configuration item, follow these steps:



1. Click **Configuration Management > Resources > Search CIs**.
2. Enter the search criteria and then click **Search**.
3. Database Manager performs the search and displays the record list of matching records, if any, in the device.qbe form.
4. Select the configuration item.
5. View the value in the **Status** field on the CI record, for example, "In Use", "In Stock", or "Retired/Consumed".
6. Click **OK** to return to the search results list.

## Delete a configuration item

You may be assigned a change task by the Change Coordinator that requests you to delete a configuration item (CI). Follow the procedure below to ensure those changes to configurations are properly controlled.

To delete a CI, follow these steps:

1. Find the task that requests the deletion of an existing CI in your To Do Queue, and double-click the record to open it. If you do not see the task in your To Do Queue, click the **Change Tasks** queue to view the task.
2. In the Affected CI list, click the CI that you have been requested to delete and then click **Find** to display the CI details.
3. Review the current information about the CI to determine if deleting the CI is in accordance with Configuration Management policies. For example, verify there are no open Service Desk, Incident, Problem, or Change records relating to the CI. If the modification is not applicable, reject the change task.
4. Click **Delete**.
5. Click **Yes** to confirm the deletion.
6. After the CI type is deleted, return to the task record.

7. Close the task. To do this, follow these steps:
  - a. Click **Close Task**.
  - b. Select the **Closure Code** and type a **Closure Comment**.
  - c. Click **Save & Exit**. Service Manager sets the task state to **Closed**.

## Add a relationship

### Applies to User Roles:

["Configuration Manager" on page 11](#)

["Configuration Administrator" on page 13](#)

["Configuration Auditor" on page 15](#)

["CMS and Tools Administrator" on page 17](#)

To add a relationship for a CI record, follow these steps:

1. On the CI record, scroll down to the **Relationships** section.
2. To add a new downstream relationship, click **Add**. If you are creating a new CI, click **Save** before adding the relationship.
3. On the Configuration Item Relationship form, fill in the **Relationship Name**, **Relationship Type**, and the list of **Downstream CIs**.
4. (Optional) Fill in the **Outage Dependency** fields, and then click **OK** to return to the CI record.
5. When you finish creating or modifying the configuration item record, click **Save**.

The upstream and downstream CIs are displayed with their display names.

## Configuration Management environment record

The Configuration Management environment record defines options affecting basic Configuration Management functionality for all users. Service Manager provides a default Configuration Management environment record that you can modify for your system.

## Configure the Configuration Management environment record

### Applies to User Roles:

System Administrator

The Configuration Management environment record defines options that enable or disable Configuration Management application functionality for all Configuration Management users. The Configuration Management environment record provides default settings that you can customize based on your specific business needs.

To configure the Configuration Management environment settings, follow these steps:

1. Click **System Administration > Ongoing Maintenance > Environment Records > Configuration Management Environment**.
2. Select new options or clear default options. Your changes redefine the Configuration Management environment for all users.

Option	Description
Allow Operator Access without Profile Record?	If selected (set to true), indicates that a user can access the Configuration Management module even if no profile is defined for the user.
Max Number of Members in Group	The maximum number of members a Configuration Items group can have.  This option applies for CI groups (Baseline or Ad Hoc).
Max Size For Operations	The maximum number of members a group can have for operations, including filling group members in Problem Management, creating tasks for each group member in Change Management, and so on.  This option applies for CI groups (Baseline or Ad Hoc).
Enforce Baseline Group	Indicates whether to enable version control for baseline Configuration Items Group. This setting is used whenever a user creates a baseline group.

Option	Description
Version Control	<ul style="list-style-type: none"> <li>Available level: Levels for each version. This setting is used whenever a user creates a baseline group.</li> <li>Initial value: The initial values for each level when a baseline Configuration Items Group was first created. This setting is used whenever a user creates a baseline group.</li> <li>Maximum increment: The maximum increment allowed for each level. This setting is used whenever a user creates a baseline group.</li> </ul>
Max Levels for Relationship Tree Search	The maximum level of downstream CIs to retrieve when you click the <b>Show Members</b> button from a CI record of the “Business Service” or “CI Group” type. For example, a business service email may have 3 child CIs, and each child CI may have 3 children. If this field is set to 1, the <b>Show Members</b> option retrieves only 3 children; if the level is set to 2, the <b>Show Members</b> option retrieves 3 children plus 9 grandchildren.
Max Levels for Related CI's for Service	The maximum level of downstream CIs of an affected business service to retrieve when you click the Fill button to select an affected CI. In an interaction/incident/problem/known error/change record, you select an affected business service, and then click the Fill button to select an affected CI. The Fill option retrieves all downstream CIs of the business service that you select. For example, a business service named Email may have 3 children, and each child CI may have 3 children. If this field is set to 1, the Fill option retrieves only the 3 children; if the field is set to 2, the Fill option retrieves 3 children plus 9 grandchildren.
Subscription Add	Indicates the Change category that will be used for the fulfillment of an item being subscribed to.
Subscription Remove	Indicates the Change category that will be used for the fulfillment of an item being unsubscribed to.
Subscription Request Mode	<p>Use this option to select the way to subscribe to items: via Service Catalog or directly from the Subscription list. The Administrator is able to choose between two Subscription modes - Change Management or Service Catalog.</p> <p>If the value is left empty, it will be defaulted to Service Catalog. If the mode is set to Service Catalog, users can only subscribe to items through Service Catalog; if the mode is set to Change Management, a Self Service Ticketing user (SST user) can subscribe or cancel subscriptions to items directly from the Subscription list.</p>
Allow User-Defined CI Identifier Values for	If selected (set to true), indicates that the user can manually specify a CI Identifier value or edit the system-generated CI Identifier value when creating a new CI. If the user does not specify a CI Identifier value, Service Manager automatically generates one as the initial value. Once the new CI is created

Option	Description
New CIs	(saved), the user-defined CI Identifier value is no longer editable.  If not selected, when users create a new CI, Service Manager creates a CI Identifier value, which is not editable.  This setting applies to all CI types.

3. When you finish making your changes, click **Save**.
4. Click **OK**.
5. Log out and log back in so that your changes take effect.

## Contract Management overview

Contract Management enables you to perform the following actions:

- Create contracts from contract types or user-defined templates.
- Track contract and payment details.
- Define payments for contracts and generate payment schedules.
- Associate contracts with multiple assets.
- Maintain a table of standard contract terms and conditions.
- Create contract templates.
- Renew contracts automatically.

## The contract life cycle

You can manage a contract throughout the contract life cycle. To do so, follow these steps:

1. Create the contract.  
The initial status of the contract is draft. You can delete a contract only while it is in **Draft** status.
2. The contract term begins on the start date entered in Service Manager.  
On the start date, the status of the contract changes to **Current**.

3. The contract term ends on the expiration date entered in the system.  
At the end of the contract term, you must renew the contract, otherwise it expires.

## Contract types

Contract Management is useful to companies that have assets under contract. To use Contract Management, a company must be licensed to use the Configuration Management application. Service Manager supports the following contract types.

Type	Definition
<b>Lease</b>	Define general leasing conditions.
<b>Maintenance</b>	Define a maintenance contract.
<b>Software</b>	Define a software license agreement.
<b>Support</b>	Define asset support.
<b>Warranty</b>	Track warranty data about your asset.

## Create and update contracts

Contract Management enables you to create contracts from contract types or user-defined templates. You can also update the terms and conditions of a contract to meet your business needs.

When you create a new contract, you can:

- Select a contract type by using the Add New Contract wizard.
- Select a template by using the Add New Contract wizard.
- Bypass the wizard by filling in the General Contract Information form directly.

## Update the terms and conditions of a contract

### **Applies to User Roles:**

System Administrator

You can update the terms and conditions of a current contract from a repository of terms and conditions.

To update the terms and conditions for a contract, follow these steps:

1. Click **Configuration Management > Contracts > Contracts**.
2. Use search or advanced search to find one or more records.
3. Double-click a record to display it in the contract information form.
4. Open the **Terms** section.
5. Insert the cursor in the **Term/Condition** table cell, and then click the **Fill** button in the tool tray. A list of terms and conditions is displayed.
6. Double-click the terms and conditions that you want to apply to the selected contract record.
7. In the **Financial** section, make sure the cost information is correct. Because you are updating the terms and conditions of the selected contract, make sure that the cost information, such as the currency expiration date, is current as well.
8. Click **Save**.

## Create a new contract terms and conditions record

### Applies to User Roles:

System Administrator

You can create contract terms and conditions records to use with your contract templates. If you add a new contract or update an existing contract, you can choose an applicable set of terms and conditions from the list of available records.

To create a new contract terms and conditions record, follow these steps:

1. Click **Configuration Management > Contracts > Terms and Conditions**.
2. Select from the **Contract Type** list to choose an applicable contract type. You can choose from the following contract types:
  - **Lease**
  - **Maintenance**
  - **Software**

- **Support**
- **Warranty**

**Note:** If you want the new terms or conditions to apply to all contract types, leave the **Contract Type** field blank.

3. Type a brief description in the **Term/Condition** field.
4. Click **Add**.

Configuration Management generates a unique internal system ID for the new contract terms and conditions record. This value is displayed in the **Internal System ID** field.

## Adding assets to a contract

You can add assets to only the following contract types:

- Lease
- Maintenance
- Support
- Warranty

## Add configuration items to a contract

### **Applies to User Roles:**

System Administrator

In Configuration Management, a company's assets are referred to as configuration items (CIs). CIs comprise items of value to the company, such as software, hardware, or furnishings. Configuration Management identifies, defines, and tracks organizational CIs by creating and managing records for those items. To associate an asset with a contract, you must first add the CI (asset) to the contract. If the terms and conditions of a contract change, you must update your list of assets.

To add configuration items to a contract, follow these steps:



1. Click **Configuration Management > Contracts > Contracts**.
2. Use search or advanced search to find one or more records.
3. Select a contract record to associate one or more assets to that contract.
4. Do one of the following to launch the Select Assets to Add to Contract wizard:
  - (For a non-software contract) In the **Assets** section, click **Add Assets**.
  - (For a software contract) In the **Licenses** section, click **Add Licenses**.
5. Insert the cursor in the first blank line of the **Asset** field, and then click **Fill**.
6. Type or select optional search criteria, and click **Search** to generate a record list of assets.
7. Select the asset to associate with the contract, and then click **Next**  
**Note:** If there are multiple assets for this contract, continue to select each of the assets. When you are finished, click **Next**. Configuration Management returns you to the original **Assets** or **Licenses** section and displays all the new assets that you specified.
8. To allocate costs equally for all the assets in the contract, click **Generate %**.
9. To allocate costs to an individual asset, double-click the asset link. HP Service Manager displays the Allocation Information form. Type the percentage of the cost allocated to this asset in the **% Cost Allocation** field.
10. Click **Save** and then **Back** to return to the Assets or Licenses section.

- If you want assets to have unequal cost allocations, select them individually.
- You can allocate costs manually for some assets, and then choose **Generate %** to allocate the remaining assets equally.

## Contract expiration

When a contract reaches its expiration date, the system changes the status to expired if the Auto-Renew flag is not on. After a contract is expired, you can no longer make any modifications to the contract, without first reopening the contract.

To make changes to an expired contract, you must reopen the contract by opening the **More Actions** menu and clicking **Reopen Contract**. Reopening the contract changes its status to draft and clears the **Start Date** and **Expiration Date** fields.

If you change your mind about reopening a contract, you can click **Back** to undo the reopen command.

If you select another contract from the record list, click **Previous** or **Next**. HP Service Manager automatically saves the reopened contract with a draft status.

You can cancel a contract any time before its expiration date. When you cancel a contract, the status of the contract changes to canceled. To cancel a contract, click **More** or the **More Actions** icon, and then **Cancel Contract**.

## Contract renewal

Configuration Management enables you to set contracts to renew automatically by setting the Auto-Renew flag before the expiration date. At the time of renewal, the system updates the start and expiration dates to reflect the new renewal term of the contract.

When HP Service Manager renews a contract, the status changes to renewed.

## Renew a contract

### Applies to User Roles:

System Administrator

When you renew a contract, the system updates the start and expiration dates of that contract to reflect the renewal term of the contract.

To renew a contract, follow these steps:

1. Click **Configuration Management > Contracts > Contracts**.
2. Use search or advanced search to find one or more records.
3. Select the contract you want to renew.

**Note:** If you want to renew an expired contract, you must reopen the contract first. To reopen the contract, follow these steps:

- a. Click **More** or the **More Actions** icon.
  - b. Choose **Reopen Contract**.
  - c. Make sure that you update the cost information in the **Financial** section. Information, such as the currency expiration date, must be current.
  - d. When you are ready to renew the contract, proceed to the **Renewal** section
4. In the **Renewal** section, select **Auto-Renew?**. The **Renewal Period** field and **Notify in Advance?** check box appear.
  5. Type the number of days before the contract expires in the **Renewal Period** field.
  6. Select **Notify in Advance?** to receive advance notification before the next expiration date.
  7. When you select notify in advance, type the number of days to notify before the contract expires in the **How Many Days?** field.
  8. Click **Save**.

## Cancel a contract

### Applies to User Roles:

System Administrator

If you want to cancel a contract, you can do so until its expiration date. When you cancel a contract, it is not deleted from the system. The contract remains on file and the status changes to canceled.

**Note:** If you cancel a contract, you cannot reinstate it. When you cancel a contract, you also cancel all outstanding payments against that contract.

To cancel a contract, follow these steps:

1. Click **Configuration Management > Contracts > Contracts**.
2. Use search or advanced search to find one or more records.
3. Double-click the record that you want to cancel.
4. Click **More** or the **More Actions** icon.

5. Choose **Cancel Contract**. The contract remains on the list of contract records, but the status field changes to canceled.

## Contract payments

Configuration Management enables you to track payment amounts made against a contract. The payment amount is dependent on weighted allocations assigned to Configuration Items (CIs). When payments post, an internal application adds the weighted amount allocation and compares the result to the total. This calculates the amount of the first payment.

## Calculating contract payments

When you view a contract, the **Assets** section displays a line for each contract asset. The amount shown on each contract asset line depends on the weighted allocations that are assigned to the assets. When you record payments, there is an internal application that adds the weighted amount allocation, compares the result to the total, and calculates the first payment.

## Example: Calculating contract payments

Assume that you have a contract covering three assets. An expense line is created for each asset in the **Assets** section of the Contract form. You make a payment of \$127.50 (USD) for all three assets. Contract Management allocates approximately one-third of the payment to each asset's expense line.

Asset	Payment
First asset	42.59
Second asset	42.46
Third asset	42.46
Total	127.51

When Contract Management adds the allocated amounts, the total is 127.51, which is one cent over the total payment amount. Contract Management adjusts the first allocation amount to ensure the total allocated amount equals the actual payment amount. The final expense line amounts are as follows:

Asset	Payment
First asset	42.58
Second asset	42.46

Asset	Payment
Third asset	42.46
Total	127.50

## Cancel a payment record

### Applies to User Roles:

System Administrator

Contract Management integrates service contract information and tracking into HP Service Manager. Unlike service level agreements, which describe how services in a contract are to be rendered, service contracts are financial agreements that define the services to be provided and the financial implications of using those services. Contract Management tracks each service contract associated between a customer and service provider, and compiles individual expenses and costs for those services. When using the Configuration Management Payments option, you can submit, cancel, or delete a payment record.

**Note:** You cannot cancel a payment if there is no outstanding balance.

To cancel a payment record, follow these steps:

1. Click **Configuration Management > Contracts > Payments**.
2. Use search or advanced search to find one or more records.
3. Select the target payment record you want to cancel.
4. Click **Cancel Payment**. The **Status** changes from **Pending** to **Canceled**.
5. Click **Save**.

## Delete a payment record

### Applies to User Roles:

System Administrator

Contract Management integrates service contract information and tracking into HP Service Manager. Unlike service level agreements, which describe how services in a contract are to be rendered, service contracts are financial agreements that define the services to be provided and the financial implications of using those services. Contract Management tracks each service contract between a

customer and service provider, and compiles individual expenses and costs for those services. When using the Configuration Management Payments option, you can submit, cancel, or delete a payment record.

To delete a payment record, follow these steps:

1. Click **Configuration Management > Contracts > Payments**.
2. Use search or advanced search to find one or more records.
3. Select the target payment record that you want to delete.
4. Click **Delete**. The payment record is deleted from the list of payment records.

## Generate a payment schedule for a contract

### Applies to User Roles:

System Administrator

Contract Management tracks each service contract between a customer and service provider, and compiles the individual expenses and costs for those services. Configuration Management allows you to generate a payment schedule for a contract as long as there is an outstanding balance for that contract.

**Note:** The payment schedule you set up should fit within the start and end dates of the contract.

To generate a payment schedule for a contract that is not expired, follow these steps:

1. Click **Configuration Management > Contracts > Contracts**.
2. Use search or advanced search to find one or more records.
3. Select the record that you want to update.
4. Open the **Financial** section.
5. Go to the **Payment Information** subsection.
6. Click **Generate Payment Schedule** to start the Generate Payment Schedule wizard.

7. Complete the following required fields:
  - **No. of Payments:** Enter the total number of payments to be made.
  - **Frequency:** Select Daily, Monthly, or Annually.
  - Do one of the following to choose the **Currency** value:
    - Select a currency from the list. For example, British Pound.
    - If the Currency box is empty, click **Fill** to choose an ISO currency code. For example, GBP for British Pound.
    - Click **Find** to generate a record list of currency records. Double-click any record to display the record in the Currency form.
  - **Currency EX Date:** Required only if the system currency and payment currency are not the same.
8. Click **Next** to return to the Contract Information form. The pending payments are listed in the payment schedule table at the bottom of the form. For example, if you have scheduled five monthly payments of \$100.00 each, these payments are listed with their due dates and a status of pending.

**Note:** Configuration Management verifies that the payment schedule fits within the start and end dates of the contract. If the amount and frequency of payments do not fit within those limits, Configuration Management displays an error message.

## Schedule a payment for a contract

### Applies to User Roles:

System Administrator

Contract Management tracks each service contract between a customer and service provider, and compiles individual expenses and costs for those services. Configuration Management allows you to schedule a payment for a contract as long as there is an outstanding balance for that contract.

To schedule a payment for a contract that is not expired, follow these steps:

1. If you use the **Manage Payments** option, follow these steps:
  - a. Click **Configuration Management > Contracts > Manage Payments**.
  - b. Click **New** to create a new payment record.
  - c. Use search or advanced search to find one or more records.
  - d. Select your target record.
2. If you use the **Contracts** option, follow these steps:
  - a. Click **Configuration Management > Contracts > Contracts**.
  - b. Use search or advanced search to find one or more records.
  - c. Select your target record.
  - d. Open the **Financial** section, and then go to the **Payment Information** subsection. In this subsection you can view actual costs, such as rent and renewal.
  - e. Click **Schedule Single Payment**.
3. Type the payment amount you want to schedule in the **Amount** field.
4. Choose a value in the **Currency** field. For example, British Pound.
5. Select a date in the **Currency EX Date** field if the system currency and payment currency are not the same.
6. Select the payment status in the **Status** field. The following are available status types:
  - **Pending**: The initial status when you first add a payment to a contract.
  - **Submitted**: Indicates that the payment processing is complete and cannot be retrieved for modification or deletion.
  - **Canceled**: The payment is stopped. The payment appears in the list of payments, but it cannot be submitted for payment.

If you are scheduling a payment, you can select **Pending**.
7. Select a **Payment Code** to indicate the type of payment being scheduled. You can choose from the following payment options:



- **One-time:** Single payment.
  - **Purchase:** Payment to purchase an asset or to apply toward acquiring a leased asset.
  - **Renewal:** Payment toward renewal costs.
  - **Buyout:** Pay off a lease contract.
  - **Other:** Payment of other costs, such as administrative expenses.
8. Type the date the payment is due in the **Date Due** text box. The format is *mm/dd/yy*. You can also select the due date and time from the HP Service Manager calendar. The due date must be a future date to ensure that the payment processes correctly.
  9. Enter additional payment information in the available payment fields.
  10. Click **Add**.

## Submit a payment record

### Applies to User Roles:

System Administrator

Contract Management integrates service contract information and tracking into HP Service Manager. Unlike service level agreements, which describe how services in a contract are to be rendered, service contracts are financial agreements that define the services to be provided and the financial implications of using those services. Contract Management tracks each service contract between a customer and service provider, and compiles individual expenses and costs for those services. When using the Configuration Management Payments option, you can submit, cancel, or delete a payment record.

**Note:** You cannot submit a payment if there is no outstanding balance.

To submit a payment record, follow these steps:

1. Click **Configuration Management > Contracts > Payments**.
2. Use search or advanced search to find one or more records.
3. Select the target payment record you want to submit.

4. Click **Submit Payment**. The **Status** changes from **Pending** to **Submitted**.

**Note:** Submitting a payment does not make an actual payment.

5. Click **Save**.

## Contract Management administration

Contracts are agreements that describe contract terms, the method by which contract payments are calculated, and payment due dates. Administrative tasks include setting up contract profiles, calculating payments and payment dates, posting payments, and providing balance information for the duration of the contract.

## Contract Management environment record

The Contract Management environment record defines options affecting basic Contract Management functionality for all users. HP Service Manager provides you with a default Contract Management environment record that you can modify for your system. The Contract Management environment record allows administrators to enable or disable access for all operators to Contract Management functionality with or without having a related Contract Management profile record. The Contract Management profile record specifies the activities or operations allowed for contracts such as adding, updating, canceling, or renewing contracts.

## Configure the Contract Management environment

### **Applies to User Roles:**

System Administrator

The Contract Management environment record defines options that enable or disable Contract Management application functionality for all Contract Management users. The Contract Management environment record provides default out-of-box settings. You can customize these settings to meet your specific business needs.

To configure the Contract Management environment settings, follow these steps:

1. Click **System Administration > Ongoing Maintenance > Environment Records > Contract Management Environment**.

2. Select new options or clear default options. Your changes redefine the Contract Management environment for all users.
3. When you finish making your changes, click **Save**.
4. Click **OK**.

## Contract Management profile records

After you modify the operator record to give a user Contract Management rights, you must add a Contract Management profile for that user. HP Service Manager provides a default series of profile records, which is based on user roles. The DEFAULT profile sets permissions for users who are not defined by any other profile record. Users can access Contract Management by using this profile only if you select the **Allows Access Without Profile Record** option in the Contract Management environment record.

## Add a Contract Management profile

### **Applies to User Roles:**

System Administrator

Contract Management profiles enable administrators to selectively assign access and security to users through the interaction of user roles and profiles. You can add Contract Management profiles to the out-of-box profiles.

To add a new contract security profile, follow these steps:

1. Click **System Administration > Ongoing Maintenance > Profiles > Contract Management Profiles**.
2. Type the name of the new profile in the **Profile Name** field.
3. Select the applicable profile elements: Threading, contract, software counter, payment, asset allocation, terms and conditions, and general privileges options for the profile.
4. Click **Add**.

To add a new profile by using an existing profile , follow these steps:

1. Click **System Administration > Ongoing Maintenance > Profiles > Contract Management Profiles**.
2. Use search or advanced search to find one or more records.

3. Select the profile from the list that most closely matches the profile you want to add.
4. Type the name of the new profile in the **Profile Name** field.
5. Add or change information on the form to select the applicable contract elements: Threading, contract, software counter, payment, asset allocation, terms and conditions, and general privileges options for the new profile.
6. Click **Add**.

**Caution:** Make sure that you do *not* click **Save** because doing so will replace the existing profile with the new profile you are attempting to add.

## Creating a contract

You can create a variety of contract types using the forms provided in the Configuration Management application. Information is entered into the selected form and that information models the specifics for the contract. Some forms provide multiple sections that contain information fields. For example, if you choose *lease*, the Lease Contract Information form opens. This form contains several sections that apply specifically to leased configuration items (CIs).

## Create a contract template

### **Applies to User Roles:**

System Administrator

Contract Management tracks each service contract between a customer and service provider. Configuration Management enables you to create contracts from contract types or user-defined templates.

To create a contract template, follow these steps:

1. Click **Configuration Management > Contracts > Contracts**.
2. Use search or advanced search to find one or more records.
3. Select a contract to use as a template.
4. Click **More** or the **More Actions** icon.
5. Choose **Create Template**.

6. Type the name of the new template in the **Name** field.
7. Add or change information on the form to select the applicable contract, lease, financial, terms and conditions, and other information to ensure the contract template is standardized for all related contracts.
8. Click **Add**.

**Caution:** Make sure that you do *not* click **Save** because doing so will replace the existing contract with the new contract you are attempting to create.

## Add a contract

### Applies to User Roles:

System Administrator

Contract Management enables you to track service contracts between customers and service providers. You can add new contracts from contract types or user-defined templates.

To create a new contract, follow these steps:

1. Click **Configuration Management > Contracts > Contracts**.
2. Click **New** to start the Add New Contract wizard.
3. To create a contract by type, follow these steps:
  - a. Choose **Create what type of contract?**, and then select a contract type from the list of records.
  - b. Click **Next**. Configuration Management displays the contract form with the applicable fields to enter information about the contract. The form may have multiple sections with multiple information fields. For example, if you choose lease, the Lease Contract Information form opens. It has several sections that apply to leased assets.
4. To create a contract from a user-defined template, follow these steps:
  - a. Choose **Create a contract from which template?**, and then choose a template from the list of records.

**Note:** If there are no contract templates available for selection, you need to create one or more first.

- b. Click **Next**. Configuration Management displays the contract template form in which to enter information about the new contract. The form may have multiple sections with multiple information fields. For example, if you choose the Software template, the Software Contract Information form opens.
5. Type a ID in the **Contract ID** field.
6. Choose a date in the **Start Date** and **Expiration Date** fields.
7. Complete the remaining fields, as required.
8. Provide as much information as possible in each of the sections.
9. Click **Add**. The contract record is added and the status is noted as a draft.

**Note:** You can delete a contract only while it is in draft status. When the contract term begins on the start date, the status of the contract changes to current.

## Contract Management schedule records

HP Service Manager uses a background scheduler (called Contract) and the information in the schedule record (called Contract Status) to check for start date, expiration date, and status to determine whether contract updates are required.

## Currency conversion utility

By using the Contract Management currency conversion utility, you can automatically convert national currencies, depending on the exchange rates at the time you initiate the contract. Contract Management manages all currencies in compliance with European Union currency regulations. By default, it uses the fixed inter-European exchange rates. You can enter daily exchange rates into the system to ensure accurate rate conversions.

## Access a currency definition record

### **Applies to User Roles:**

System Administrator

Contract Management enables you to automatically convert between national currencies, depending on exchange rates at the time you initiate the contract. You can view a currency definition record to make sure it is current.

To access a currency definition record, follow these steps:

1. Click **System Administration > Base System Configuration > Currencies**.
2. Use search or advanced search to find one or more records.
3. Click a record to view it in the Currency Information form.
4. Edit information about the currency as necessary.
5. Click **Save**.

## Set daily currency exchange rates

### Applies to User Roles:

System Administrator

Contract Management provides a currency conversion utility that automatically converts national currencies, depending on exchange rates at the time you initiate the contract. You can enter daily exchange rates into the system to ensure accurate rate conversions.

To set daily currency exchange rates, follow these steps:

1. Click **System Administration > Base System Configuration > Conversion Rates**.
2. Use search or advanced search to find one or more records.
3. Click a record to view it in the Conversion Rate Information form.
4. Update the **Date** and **Exchange Rate** fields with the daily exchange rate information.
5. Click **Save**.

**Note:** You can tailor Service Manager to automatically import the daily currency exchange rates. For more information, see [Tailoring](#).

## Configuration Management profile records

After you modify an operator record to give a user Configuration Management rights, you must add a Configuration Management profile for that user. HP Service Manager provides a default series of profile records, which are based on user roles. The DEFAULT profile sets permissions for users who are not defined by any other profile record. Users can access Configuration Management by using this profile only if you select the **Allows Access Without Profile Record** option in the Configuration Management environment record.

## Add a Configuration Management profile

### Applies to User Roles:

System Administrator

Configuration Management profiles enable administrators to selectively assign access and security to users through the interaction of user roles and profiles. You can add Configuration Management profiles to the out-of-box profiles.

**Note:** If you are not sure what information is available in the fields on the tabs you select, you can click **Fill** to generate a record list of possible options, and then choose an option.

To add a new profile, follow these steps:

1. Click **System Administration > Ongoing Maintenance > Profiles > Configuration Management Profiles**.
2. Type the name of the new profile in the **Profile name** field.
3. Select or clear privileges and view settings for security and other Configuration Management profile options.
4. Click **Add**.

To add a new profile by using an existing profile, follow these steps:

1. Click **System Administration > Ongoing Maintenance > Profiles > Configuration Management Profiles**.



2. Use search or advanced search to find one or more records.
3. Select a profile from the list that most closely matches the profile you want to add.
4. Type the new name of the profile in the **Profile name** field.
5. Add or change information on the form to select the applicable privileges and view settings for the security and other Configuration Management profile options.
6. Click **Add**.

**Caution:** Make sure that you do *not* click **Save** because doing so will replace the existing profile with the new profile you are attempting to add.

## Enable Configuration Management access

### Applies to User Roles:

System Administrator

Capability words provide a security mechanism to control access to HP Service Manager applications by enabling or disabling parts of the interface. You can add capability words to a user role or individual operator to control user access to Configuration Management.

To enable Configuration Management access, follow these steps:

1. Click **System Administration > Ongoing Maintenance > Operators**.
2. Use search or advanced search to find one or more records.
3. Select the operator record that you want to grant access to Configuration Management.
4. Click the **Startup** tab.
5. Add the desired Configuration Management capability words to **Execute Capabilities**. Click **Find** or **Fill** to select an applicable capability word.

**For example:** Select **ICMAdmin** to grant administrative access to Configuration Management or select **inventory management** to grant access to Configuration Management.

6. Click **Save**.

## Change a configuration item device type

### Applies to User Roles:

System Administrator

Each asset in the Configuration Management database is assigned a configuration item (CI) device type. The CI device type contains one record for each CI defined. When you define a new CI type, the devtype file adds a new record.

To change a Configuration Item device type, follow these steps:

1. Click **Configuration Management > Resources > Search CIs**.
2. Use search or advanced search to find one or more records.
3. Double-click a record to display it in the Configuration Item form.
4. To change the device type for a single device, click **More** or the **More Actions** icon for the Configuration Item form.
5. Click **Change Device Type**. Configuration Management starts the wizard.
6. Select a **New Device Type** from the list of records to choose a new device type and then click **Next**.
7. Select a **Subtype** from the list of records if you want to choose a subtype for the device and then click **Next**. Configuration Management opens a Change Device Type Status of Attribute Files form to confirm current and new attribute file names.

**Caution:** If any fields contain non-matching data in the old and the new attribute files, the data in those fields will be lost. Also be aware that any data in fields with matching field names, but with different data types, will become corrupt.

8. To finish, click **Next**.

The updated asset record displays the new device type and optional subtype information.

**Note:** To change the device type for a list of devices, click **More** or the **More Actions** icon for the record list and complete steps 5 to 8.

## Using Mass Update with Configuration Management record lists

Mass Update enables you to select multiple records from a list of records in order to update the value in a field or several fields across all selected records. The system provides a template form that displays the fields for the selected records and allows a user to change the value of any of the fields displayed. The Mass Update template form does not display all fields in the records. For example, read-only fields in the data policy do not display. You can also perform a Complex Update on the selected records. A Complex Update uses rad expressions that contain variables and concatenated fields to populate other fields in the selected records.

Mass Update is available for device records (Manage CIs), software records (Manage Software), and CI Queue records. By default, the System Administrator profile includes the Mass Update capability.

**Note:** It is possible to use Mass Update to make changes across configuration item (CI) types and groups; however, it is important to be careful when you are using this feature. A best practice is to perform mass updates only within a specific device type, for example, computer or telecom.

## Update multiple configuration item records

### **Applies to User Roles:**

System Administrator

You can use mass update to update a value in one or more fields for multiple configuration item (CI) records. For example, if you want to update CI records that are not compliant with baseline, select the Devices not compliant with the baseline view of the CI queue. The value you enter for a particular field becomes the value for that field for all the records you selected for mass update.

You can use complex update to enter expressions as instructions for actions performed on multiple CI records.

**Caution:** If you exit the Mass Update template form or Complex Update form without clicking **Execute**, all of your changes are cleared on the respective form.

To update multiple CI records by using mass update, follow these steps:

1. Click **Configuration Management > Resources > Search CIs**.
2. Use search or advanced search to find one or more records. Select the View list of CI records that you want to update.
3. Using the scroll bar and the **ctrl** key, select the individual records that you want to include in the mass update. Each record you select remains highlighted.
4. Click **Mass Update**. A list of fields available for update opens.
5. Update the fields included in the mass update. To do this ,follow these steps:
  - a. Double-click the field you want to update, and then type the value for the field in the box or use the **Find** or **Fill** feature to display a list of potential values for the field.
  - b. Click **Next**.
  - c. Continue updating the fields that you want included in the mass update.
  - d. Click **Next** after each update.
6. Click **Execute**.
7. If a CI record cannot be included in the mass update, you can choose the following options:
  - **Retry**: Retry the mass update.
  - **Skip**: Skip the CI record to exclude it from the mass update and continue with the next record.
  - **End**: End the mass update and retry later.

To update multiple CI records by using complex update, follow these steps:

1. Click **Configuration Management > Resources > Search CIs**.
2. Use search or advanced search to find one or more records. Select the View list of CI records you want to update.
3. Using the scroll bar and the **ctrl** key, select the individual records that you want to include in the complex update. Each record you select remains highlighted.
4. Click **Mass Update**.
5. Click **Complex Update**.

6. Follow the instructions in the complex update form and type the expressions in the **Instructions to be executed ONCE at the beginning of mass add/update** field and the **Instructions for action on EACH RECORD** field.
7. Click **Execute**.
8. If a CI record cannot be included in the complex update, you can choose the following options:
  - **Bypass**: Bypass the invalid message and include the CI record in the complex update.
  - **Skip**: Skip the CI record to exclude it from the complex update and continue with the next record.
  - **End**: End the complex update and retry later.

## Update multiple configuration item software records

### Applies to User Roles:

System Administrator

You can use mass update to update one or several fields in a set of records. Mass update consists of three related functions: Mass Update, Simple Mass Update, and Complex Mass Update. In a Mass Update, a template displays a list of fields that can be updated. You enter a value for each field updated to complete the process. In a Simple Mass Update, the system displays a record form in which you can enter values for selected fields. The values are then applied to all the records selected for the Simple Mass Update. In a Complex Mass Update, the system displays a form in which you type expressions containing variables and concatenated fields to populate another field in the selected records.

**Caution:** If you exit the Mass Update template form or Complex Update form without clicking **Execute**, all of your changes are cleared on the respective form.

To update multiple CI software records by using mass update, follow these steps:

1. Click **Configuration Management > Resources > Manage Software**.
2. Use search or advanced search to find one or more records.
3. Using the scroll bar and the **ctrl** key, select the individual records that you want to include in the mass update. Each record you select remains highlighted.
4. Click **Mass Update**. A list of fields available for update opens.

5. Update the fields included in the mass update, follow these steps:
  - a. Double-click the field you want to update, and then type the value for the field in the box or use the **Find** or **Fill** feature to display a list of potential values for the field.
  - b. Click **Next**.
  - c. Continue updating the fields that you want included in the mass update.
  - d. Click **Next** after each update.
6. Click **Execute**.
7. If a CI record cannot be included in the mass update, you can choose to:
  - **Retry**: Retry the mass update.
  - **Skip**: Skip the CI record to exclude it from the mass update and continue with the next record.
  - **End**: End the mass update and retry later.

To update multiple CI software records by using simple update, follow these steps:

1. Click **Configuration Management > Resources > Manage Software**.
2. Use search or advanced search to find one or more records.
3. Using the scroll bar and the **ctrl** key, select the individual records that you want to include in the simple update. Each record you select remains highlighted.
4. Click **Mass Update**.
5. Click **Simple Update**.
6. Type new values into the applicable fields on the form.
7. Click **Execute**.
8. If a CI record cannot be included in the simple update, you can choose the following options:
  - **Retry**: Retry the simple mass update.
  - **Skip**: Skip the CI record to exclude it from the simple mass update and continue with the next record.

- **Force:** Force the update on this record and continue with the next record.
- **End:** End the simple mass update and retry later.

To update multiple CI software records by using complex update, follow these steps:

1. Click **Configuration Management > Resources > Manage Software**.
2. Use search or advanced search to find one or more records.
3. Using the scroll bar and the **ctrl** key, select the individual records that you want to include in the complex update. Each record you select remains highlighted.
4. Click **Mass Update**.
5. Click **Complex Update**.
6. Follow the instructions in the complex update form and type the expressions in the **Instructions to be executed ONCE at the beginning of mass add/update** field and the **Instructions for action on EACH RECORD** field.
7. Click **Execute**.
8. If a CI record cannot be included in the complex update, you can choose the following options:
  - **Bypass:** Bypass the invalid message and include the CI record in the complex update.
  - **Skip:** Skip the CI record to exclude it from the complex update and continue with the next record.
  - **End:** End the complex update and retry later.

## Checklist: Software license tracking and compliance

You can use Configuration Management to manage the software used in your organization. You can perform the following software management tasks:

- Set up software inventories.
- Verify that the number of actual software installations is within the number of installations allowed by your licenses.

- Link each software license to a specified contract.
- Manage software suites.

## Software license tracking and compliance files

Managing software includes managing the application, license, installations, and contracts. The following files track information about the software in your organization.

File	Description
<b>model</b>	Tracks different software models, including software license and software installation models.
<b>device</b>	Tracks data about each application and software license.
<b>contractsoftware</b>	Documents any financial and procurement information for licensing agreements. You can also attach multiple licenses to a software contract.
<b>contractitem</b>	Tracks the associations between contracts and assets.
<b>pcsoftware</b>	Contains one record for each software installation. The software compliance engine uses information in these records to count each installation during software compliance checks. The information also appears on Configuration Item (CI) records in the device table for CIs that have installed software.
<b>softwarecounter</b>	Verifies that the number of actual software installations conforms with the number of installations allowed by your licenses.

## Software license and installation information

The model file describes different asset types in the model catalog. To effectively track software licenses, the model file contains two types of descriptions:

- Software licenses
- Software installations

The Software tab displays the information about licenses and installations. If the data in the LI (Line Item) Category field on the Catalog tab references a software license or a software installation, the Software tab is populated with a description of the license and installation information.

## Create a software installation record

**Applies to User Roles:**



## System Administrator

After you verify that there are existing software installation models in HP Service Manager, you can create a software installation record. If there are no software installation models in Service Manager, you must add a software installation model to the catalog.

A software installation is an asset that tracks where software is installed, who is using it, and the date it was installed. You must create separate records for each installation.

**Note:** If your system is integrated with HP Universal CMDB, it can be configured to automatically create a new CI record.

To create a software installation record, follow these steps:

1. Click **Configuration Management > Resources > Manage Software**.
2. Click **Fill** to generate a list of applications.
3. Select the application for the software installation record you want to create. The Manage Software form opens.
4. Complete the remaining fields, as required to document the installation.
5. Click **Add**. Service Manager adds a pcsoftware record.

## View software installation information

### Applies to User Roles:

#### System Administrator

You can view software installation information, such as Version, Install Date, and License ID, from configuration item (CI) records or from software installation records.

To view software installation information from a CI record, follow these steps:

1. Click **Configuration Management > Resources > Search CIs**.
2. Use search or advanced search to find one or more records.
3. Select the CI record containing the software installation information you want to view.
4. Open the **Software** section to view a list of all installed software.
5. Double-click an installation record to view software information.

To view software installation information from a software installation record, follow these steps:

1. Click **Configuration Management > Resources > Manage Software**. The Manage Software form opens.
2. Click **Search** to generate a record list of applications, versions, and the associated installations.
3. Double-click the application record containing the software installation information you want to view, to display it in the Manage Software form.
4. View the software installation information in the **Application Information** and **Installed Computer System** sections.

## What is the model catalog?

The model catalog contains descriptions of different types of assets that you are tracking. For example, you can track the following items by using the model catalog:

- Application software
- Computer hardware
- Office equipment

## Add a software installation model to the catalog

### Applies to User Roles:

Configuration Administrator

System Administrator

You can add a software installation model to the catalog that will track the points for each install or version and track whether the software installation is authorized. You must create a new model before you can create new configuration items (CIs) that are based on the model.

To add a software installation model to the catalog, follow these steps:

1. Click one of the following based on your role:
  - For Configuration Administrators, click **Configuration Management > Configuration Management Administration > Models**.

- For System Administrators, click **System Administration > Base System Configuration > Models**.

The Search Model Records form opens.

2. Complete the following new model information:
  - Type a unique part number in the **Part No.** field.
  - Type a description in the **Brief Description** field.
  - Click **Fill** and then select a manufacturer in the **Manufacturer** field.
  - Type a model in the **Model** field.
  - Click **Fill** in the **LI Category** field and then select **Software Installation** as the Line Item Category Name.
3. Click **Add**.

HP Service Manager adds the model record and displays several more tabs where you can enter additional information about the model.

4. Select the **Software** tab and type the name in the **Application Name** field.
5. From the **Software** tab, type or select the following Installation Information:
  - Points per Install
  - Version
  - Authorized?
6. Type or select any additional information for the model in the other form tabs.

**Note:** Click all tabs to make sure that you have completed the required fields.

7. Click **Save**. Service Manager updates the model record.
8. Click **OK**. You can now create new configuration items based on the new model.

## Add a software license model to the catalog

### **Applies to User Roles:**

## Configuration Administrator

You can add a software license model to the catalog to track license information, including whether the license authorizes single- or multi-user, total number of installs, and evaluation rights. You must create a new model before you can create new configuration items (CIs) that are based on the model.

To add a software license model to the catalog, follow these steps:

1. Click **Configuration Management > Configuration Management Administration > Models**. The Search Model Records form opens.
2. Type or select the new model information, including a unique Part Number, and then click **Add**.
3. Double-click **Software License** to select it as the Line Item Category.  
HP Service Manager adds the model record, and then displays several more tabs where you can enter additional information about the model.
4. Select the **Software** tab, and then type the name in the **Application Name** field.
5. Type or select the following License Information:
  - Single-User or Multi-User
  - Total Number of Installs
  - Evaluation Rights
6. Type or select any additional information for the model on the other form tabs.

**Note:** Select all tabs to make sure that you have completed all required fields.

7. Click **Save**. Service Manager updates the model record.
8. Click **OK**. You can now create new configuration items based on the new model.

## Multiple license types

There are three types of multiple licenses:

- **Per named workstation** enables you to install a software application on a given number of identified workstations. For example, a license for an office automation suite that can be installed on 1,000 workstations.

- **Per named user** enables access to an application or database for a given number of users. For example, a license enabling access to a database for 500 named users.
- **Per concurrent accesses** enables a specified number of concurrent accesses to a database. For example, a license enabling 1,000 concurrent users access to the database.

For each multiple license, HP Service Manager has a Rights field, which specifies the number of:

- Workstations where you can install the software
- Named users
- Concurrent users

Software counters use these values to verify that your company has not exceeded the number of installations or concurrent users granted by a license.

## Software licenses are assets

A software license is an asset record stored in the device file. It describes the number of authorized software uses within an organization. For example, you may purchase a 50-user license for Microsoft Office that supports 50 installations of Microsoft Office. Information about that license is stored as an asset record in the device file.

## Create a software license configuration item (CI)

### **Applies to User roles:**

Configuration Administrator

After you verify that there are existing software license models in HP Service Manager, you can create a software license configuration item (CI). If there are no software license models in Service Manager, you must add a software license model to the catalog.

A software license is an asset that represents the number of authorized software users within an organization. The software license CI also contains information, such as whether the software can be used on more than one operating system, the current software version, and whether the software resides on the network or on the client. After the software license CI is created, you can create one or more installation records to track where the software is installed and who is using it.

To create a software license CI, follow these steps:

1. Click **Configuration Management > Resources > Search CIs**.
2. Click **New**. The Add New Device wizard opens.
3. Select **Software License** in the **CI type** field, and then click **Next**. The New Configuration Item form opens.
4. Enter the information about the software license to complete the CI record, and then click **Save & Exit**.

**Note:** The part number you select determines the software license CI model that is used for the new CI.

Service Manager creates the CI record and assigns a unique identifier.

## What is a software counter?

Software counters enable you to verify that the number of software installations you actually have does not exceed the number authorized by your license. The number of software installations or access rights authorized by a license is indicated by the number of rights.

For certain licenses, the software installation corresponds to the consumption of a certain number of points. For example, a Microsoft Select license specifies that installing Microsoft Word uses 10 points. Therefore, 100 of these installations uses 1,000 points. When you use software installation counters, you can specify if the installation count should also count the number of points allocated to each installation.

## Create a software counter

### **Applies to User Roles:**

System Administrator

You can create a software counter in HP Service Manager to track software installations and to ensure that the number of actual software installations does not exceed the number authorized by your license.

Choosing a calculation method for the number of software installations enables you to verify that you have not exceeded the number of rights specified in the software license. For example, if an office software license credits you with 1,000 rights and each software installation consumes 10 points, the software installation counter enables you to verify that the software has not been installed more than allowed. In this case, 100 installations X 10 points = 1,000 rights.

To create a software counter, follow these steps:

1. Click **Configuration Management > Administration > Software Counters** The Software Counter Information form opens.
2. Type a name in the **Name** field for the software counter.
3. Select the **Licenses** tab to choose which models should be included in the software counter information.
  - Select **All License Models?** to count the licenses linked to all software models.
  - Type only the **License Models** that you want included in the software counter.
4. Select the **Installs** tab to specify which installations and parts of those installations you want included in the software counter.
  - Select **All Installation Models?** to count the licenses linked to the models included in all installations.
  - Type only the **Installation Models** that you want included in the software license count.
5. Choose one of the following calculation methods in the **Calculation Method** field:
  - **Each Installation:** Count all licenses in each installation.
  - **Each Different Machine:** Count licenses by each different machine within each installation.
  - **Each Different User:** Count licenses by each different user within each installation.
6. Select **Count Software Suite Components?** to count licenses linked to all components within a software suite.
7. Select **Count Removed or Unknown Installs?** to count licenses of those components that have been removed or unknowingly installed.
8. Select **Count Non-Authorized Installs?** to count licenses of those components that are included in non-authorized installs.
9. Click **Add**.

When you click **Add** to create the software counter, Configuration Management adds the following items:

- Results tab, which displays the following fields and buttons:

Field/Button	Description
<b>No. of Rights</b>	The total number of rights acquired for a particular software license.
<b>Rights Counted</b>	Locates the number of instances of the software that are in use.
<b>Last Processed</b>	Indicates the last time a compliance check was performed.
<b>Compliance Check button</b>	Immediately runs the compliance check.
<b>Create Schedule Record button</b>	Starts the <b>Schedule Software Compliance Check</b> wizard, which sets up the compliance check calendar, when the initial check should be performed, and if a recurring license check should occur.

- Message Log tab

## Choosing a calculation method

Choosing the calculation method for the number of installations enables you to verify that you have not exceeded the number of rights specified in the software license. For example, an office software license credits you with one thousand (1,000) rights. Each software installation consumes ten points. The software installation counter enables you to verify that the software has not been installed more than one hundred (100) times ( $100 \times 10 = 1,000$ ). HP Service Manager provides three calculation methods:

- Count each installation regardless of the number of workstations or users.
- Count each workstation regardless of the number of installations on each workstation or users on the workstation.
- Count each user regardless of the number of workstations or installations.

## Software license compliance

You can configure specifics for software license compliance manually or automatically by using the Configuration Management application. After you configure software license compliance, you can run compliance check wizards, add or modify terms, schedule compliance checks, and view results.



## Compliance messages

The Message Log tab displays one of the following compliance check error messages:

- No license models have been selected for the software counter.
- No installation models have been selected for the software counter.
- There are no license models in the model table.
- A software license does not exist for the license model with Part No.= %S.
- Asset ID= %S is not a software license but is linked to license model with Part No.= %S.
- The software license with Asset ID= %S does not indicate any rights.
- There are no software install models in the model table.
- A software install does not exist for the software installation model with Part No.= %S.
- Installed system= %S does not exist for the software install with the License ID= %S and Application Name= %S.

## Check software license compliance automatically

### **Applies to User Roles:**

System Administrator

You can automatically check software license compliance in the Configuration Management application.

To check software license compliance automatically, follow these steps:

1. Click **Configuration Management > Administration > Software Counters**.
2. Use search or advanced search to find one or more records.
3. Select the software counter record for which you want to check compliance.
4. Click **Create Schedule Record** on the **Results** tab to launch the Schedule Software Compliance Check wizard.
5. Select a date for the first compliance check to occur.

6. If you want to schedule recurring compliance checks, select a date for the next compliance check to occur, and then click **Monthly**, **Quarterly**, **Semi-Annually**, or **Annually**.
7. Click **Finish** to complete the automatic schedule.

Configuration Management creates a schedule record with the same name as the software counter record.

**Note:** After Configuration Management completes a compliance check, it displays all results on the **Results** tab. Click **No. of Rights** on the **Results** tab to display a list of all the software licenses counted during the compliance check.

## Check software license compliance manually

### Applies to User Roles:

System Administrator

You can manually check software license compliance in the Configuration Management application.

To check software license compliance manually, follow these steps:

1. Click **Configuration Management > Administration > Software Counters**.
2. Use search or advanced search to find one or more records.
3. Select the software counter record for which you want to check compliance.
4. Click **Compliance Check** on the **Results** tab. Configuration Management returns a compliance message.
5. Click **OK**.

**Note:** After Configuration Management completes a compliance check, results are displayed in the Results tab. Click **No. of Rights** on the Results tab to display a list of all the software licenses counted during the compliance check.

## Clear the compliance message log

### Applies to User Roles:

System Administrator

HP Service Manager saves all compliance check error messages in the compliance check message log. You can clear the log to remove old messages.

To clear the compliance message log, follow these steps:

1. Click **Configuration Management > Administration > Software Counters**.
2. Use search or advanced search to find one or more records.
3. Select a software counter record to clear the compliance message log.
4. Click **More** or the **More Actions** icon.
5. Click **Clear Message Log**. Service Manager clears the message log.

## Software license tracking and compliance task review

To effectively manage software licenses and compliance, perform the following sequence of tasks:

1. Add the software license and software installation information to the catalog.
2. Create an asset record for the software application.
3. When you receive the software license, add a Software License type asset record and an Installation type asset record to the Configuration Management database.
4. Create a software contract record.
5. Associate the software license asset record with the software contract record.
6. Create a support contract and associate the application asset to the contract.
7. Install the software on multiple workstations and create one new software installation record for each installation.
8. Create a software counter to verify that the number of actual installations conforms with the number of installation licenses.

## CI Visualization

CI Visualization enables you to easily visualize relationships between Configuration Item (CI) components and the current state of each item in the configuration. An extensive library of graphics display the relationship in a variety of views. You can customize the views to fit your organization, including using

your own graphics for display. You can view, add, or update relationships using the graphical interface. CI visualization enables you to manage resources and outages more effectively.

## Print a visualization diagram

**User roles:** Configuration Manager, Configuration Administrator, Configuration Auditor, Change Manager, Change Coordinator, Incident Manager, Incident Analyst, Incident Coordinator

You can print a visualization diagram from the Configuration Management, Change Management, or Incident Management modules.

To print a visualization diagram, follow these steps:

1. Launch configuration item (CI) visualization from Configuration Management, Change Management, or Incident Management. The following steps take Configuration Management as an example:
  - a. Click **Configuration Management > Resources > Search CIs**.
  - b. Use search or advanced search to find one or more records. If you know the name of the CI or any other identifying information, type that information into the form.
  - c. Open the **Relationship Graph** section. The visualization diagram opens and displays the CI and all the first-level relationships and CIs. You can expand a node to see additional levels of CIs and relationships.
  - d. To expand the graph to the entire size of the form, click **More** or the More Actions icon, and then select **Expand CI Visualization**.
2. Click the **Print Preview** icon, and complete the following steps:
  - a. Select the magnification level of the diagram.
  - b. Click **Options** to select the number of rows and columns to print.
  - c. Select or clear the **Add Poster Coords** option to display or hide the coordinates.
  - d. From the **Clip Area** menu, select **Graph** or **View** for the print type.
  - e. Click the **Title** tab.
  - f. In the **Text** field, type the text you want to appear as the title on the printed diagram. You can optionally select the title bar color, text color, and font size for the printed title. The default









font size is 12.













g. Click **OK**.













3. Print the visualization diagram. Service Manager prints the visualization diagram.












## Out-of-box icons for CI representation

The following icons are available with the out-of-box application to represent Configuration Items (CIs). You can customize these icons or add your own.

Icon	Device type	Device subtype	Description
	Default	Default	Icon used to represent a generic CI. This icon appears by default if no other icon is associated with an item.
	Application		Icon used to represent a software application.
	Application	Back-up	Icon used to represent a backup software application.
	Application	Business	Icon used to represent a business software application.
	Application	Internet/Web	Icon used to represent a Web-based application.
	Business Service		Icon used to represent a business service.
	Business Service	Application Service	Icon used to represent a predefined business application.
	Business Service	Infrastructure Service	Icon used to represent the components that define a business service.

Icon	Device type	Device subtype	Description
	CI Group	Baseline	Icon used to represent a CI group.
	Computer		Icon used to represent a desktop computer system.
	Computer	Laptop	Icon used to represent a laptop computer.
	Computer	Server	Icon used to represent a network server.
	Computer	Terminal	Icon used to represent a dumb terminal..
	Computer	Tower	Icon used to represent a PC tower.
	Display Device	Monitor	Icon used to represent a computer monitor.
	Hand Held Devices		Icon used to represent a wireless device.
	Hand Held Devices	PDA	Icon used to represent a handheld device, or Personal Digital Assistant (PDA).
	Hand Held Devices	GPS Device	Icon used to represent a Global Positioning System (GPS) device.
	Mainframe		Icon used to represent an installation of a centralized computer mainframe
	Network Components		Icon used to represent a grouping of connected network components.










Icon	Device type	Device subtype	Description
	Network Components	Firewall	Icon used to represent dedicated gateway serving as a firewall. A firewall can be hardware, software, or both.
	Network Components	Gateway	Icon used to represent an entrance point to a network (gateway).
	Network Components	Hub	Icon used to represent a network connection hub.
	Network Components	Modem	Icon used to represent a modem.
	Network Components	Network Interface Card	Icon used to represent a network card.
	Network Components	Router	Icon used to represent a network router.
	Network Components	Switch	Icon used to represent a router switch.
	Office Electronics		Icon used to represent a grouping of computer peripherals or other office equipment.
	Office Electronics	Camera	Icon used to represent a camera.
	Office Electronics	Copy Machine	Icon used to represent a copier machine.
	Office Electronics	Fax Machine	Icon used to represent a connected installation of a facsimile (fax) machine.
	Office Electronics	Multifunction	Icon used to represent an all-in-one device, or multifunction printer (MFP) that comprises several pieces of equipment into one unit, such as a printer, copier, fax, and scanner.

Icon	Device type	Device subtype	Description
	Office Electronics	Printer	Icon used to represent a printer.
	Software License		Icon used to represent software installation.
	Software License	Outlook	Icon used to represent an instance of Microsoft Outlook.
	Software License	Utility Software License	Icon used to represent a software utility or tool.
	Storage		Icon used to represent a media storage device.
	Storage	CDRW	Icon used to represent a Rewritable CD.
	Storage	Direct Attached Storage (DAS)	Icon used to represent a data storage device that is connected to computers directly.
	Storage	Network Attached Storage (NAS)	Icon used to represent a hard disk storage device that is set up with its own network address.
	Telecommunications		Icon used to represent a public telephone system with multiple connections.
	Telecommunications	Desk Phone	Icon used to represent an individual telephone instrument.
	Telecommunications	PBX	Icon used to represent an installation of a Private Branch Exchange (PBX) phone system.



## Out-of-box icons for decorators

The following decorators are available with the out-of-box application. You can optionally customize them, or add your own icons.

Icon	Name	Description
	Availability SLO Breach	Indicates when a CI has breached its availability SLO.
	Critical CI (background)	When used with an icon as a binding box, indicates that the item is a critical part of the relationship structure.
	Current Change	Indicates that a CI is currently down.
	Future Change	Indicates that a CI has a scheduled downtime greater than the current time.
	Group	When used with an icon as a binding box, indicates that the item is part of a group of multiple items of the same type.
	Incident	Indicates that an incident is related to the item.
	Item Down	Indicates that the item is not in service.
	Item Down (background)	When used with an icon as a binding box, indicates that the item is not in service.
	Point of Focus	When used with an icon as a binding box, indicates what item is currently the focal point of the graph.

## Launch configuration item (CI) Visualization directly from Configuration Management

### Applies to User Roles:

Configuration Manager

Configuration Administrator

## Configuration Auditor

You can easily view the relationships between configuration item (CI) components and the current state of each item in the configuration from Configuration Management by viewing the CI in a visualization diagram.

To launch CI Visualization directly from Configuration Management, follow these steps:

1. Click **Configuration Management > Resources > Search CIs**.
2. Use search or advanced search to find one or more records. If you know the name of the CI or any other identifying information, type that information into the form.
3. Select the CI with the visualization diagram you want to view.
4. Open the **Relationship Graph** section. The visualization diagram opens and displays the CI and all the first-level relationships and CIs. You can expand a node to see additional levels of CIs and relationships.
5. To expand the graph to the entire size of the form, click **More** or the More Actions icon, and select **Expand CI Visualization**.
6. Click **Back** to return to the CI record.

## Launch configuration item (CI) Visualization directly from Change Management

### Applies to User Roles:

Change Manager

Change Coordinator

You can easily view the relationships between configuration item (CI) components and the current state of each item in the configuration from Change Management by viewing the CI in a visualization diagram.

To launch CI Visualization directly from Change Management, follow these steps:

1. Click **Change Management > Changes > Search Changes**.
2. Use search or advanced search to find one or more records. If you know the name of the change or any other identifying information, type that information into the form.
3. Select the change with the CI visualization diagram you want to view.

4. Click **More** or the More Actions icon and then select **Visualize CI**.
  - If there is only one associated CI, the visualization diagram opens and displays the CI and all the first-level relationships and CIs. You can expand a node to see additional levels of CIs and relationships.
  - If the Change type allows for multiple CIs and it has more than one associated CI, the Select CI window opens.
5. Select a CI from the list of associated CIs.
6. Click **Finish**. The visualization diagram opens for the selected CI. You can expand a node to see additional levels of CIs and relationships.
7. Click **Back** to return to the Change record.

## Launch configuration item (CI) Visualization directly from a change task

### Applies to User Roles:

Change Manager

Change Coordinator

From the configuration item (CI) visualization diagram, you can easily view the relationships between CI components as well as the current state of each item in the configuration.

To launch CI Visualization directly from a change task, follow these steps:

1. Click **Change Management > Tasks > Search Tasks**.
2. Use search or advanced search to find one or more records. If you know the name of the task or any other identifying information, type that information into the form.
3. Select the task whose CI visualization diagram you want to view.
4. Click **More** or the More Actions icon, and then select **Visualize CI**.
  - If there is only one associated CI, the visualization diagram opens and displays the CI and all the first level relationships and CIs. You can expand a node to see additional levels of CIs and relationships.

- If the Change type allows for multiple CIs and it has more than one associated CI, the Select CI window opens.
5. Select a CI from the list of associated CIs.
  6. Click **Finish**. The visualization diagram opens for the selected CI. You can expand a node to see additional levels of CIs and relationships.
  7. Click **Back** to return to the task record.

## Launch configuration item (CI) Visualization directly from Incident Management

**User roles:** Incident Manager, Incident Analyst, Incident Coordinator

You can easily view the relationships between configuration item (CI) components and the current state of each item in the configuration from Incident Management by viewing the CI in a visualization diagram.

To launch CI Visualization directly from Incident Management, follow these steps:

1. Click **Incident Management > Search Incidents**.
2. Use search or advanced search to find one or more records. If you know the name of the incident or any other identifying information, type that information into the form.
3. Select the incident whose CI visualization diagram you want to view.
4. Click **More** or the More Actions icon, and then select **Visualize CI**. The visualization diagram opens and displays the CI and all the first-level relationships and CIs. You can expand a node to see additional levels of CIs and relationships.
5. Click **Back** to return to the incident record.

## View the details of a configuration item (CI) in CI Visualization

**Applies to User Roles:**

Configuration Manager

Configuration Administrator

Configuration Auditor

You can view the details of a CI by opening the detail record from CI Visualization.

To view the details of a configuration item in CI Visualization, follow these steps:

1. Click **Configuration Management > Search CIs**.
2. Use search or advanced search to find one or more records.
3. Select the CI with the details you want to view.
4. Open the **Relationship Graph** section. The CI Visualization diagram displays the relationships between the CI components and the current state of each item in the configuration.
5. Click on any node in the graph and select the **View CI Details** option. The detail record for that CI opens on a new tab.
6. Click **OK** to return to the CI Visualization diagram.

## Configuring CI visualization

You can configure and customize the CI visualization implementation by performing the following administrative actions.

- Specify the images that represent Configuration Items (CIs) in the visualization diagram.
- Define the criteria and images used to indicate CI status.
- Configure settings and display preferences.
- Create or modify labels for menu items used to control display of decorators.

## Adding custom icons and decorators to the graph

You can add your own custom decorators and icons to the library to use with your application. The objects you create are saved as attachments in the database. For peak performance and to align with the look and feel of the out-of-box (OOB) application, use the following standards:

Object	Dimensions	Color palette	Format	Rules
Decorator	16x16	256	.gif	Ensure that the image name is not the same as any of the OOB image names. The image must be saved in the SYSATTACHMENTS table.

Object	Dimensions	Color palette	Format	Rules
<b>Decorator (background)</b>	76x64 maximum	256	.gif	Ensure that the image name is not the same as any of the OOB image names. The image must be saved as transparent or it will cover the binding icon in the visualization diagram. The image must be saved in the SYSATTACHMENTS table.
<b>Icon</b>	32x32 in 48x48 frame	256	.gif	Icons must be 32x32 images centered within a 48x48 frame. Ensure that the image name is not the same as any of the OOB image names. The image must be saved in the SYSATTACHMENTS table.
<b>Line</b> —	None	None	N/A	A solid line between icons indicates a physical relationship between the items, they are physically connected.
<b>Line</b> —	None	None	N/A	A dotted line between icons indicates a logical relationship between the items; they are connected with software and dependent on each other.

## Modify an out-of-box icon

### Applies to User Roles:

System Administrator

You can modify the out-of-box icons that represent configuration items (CIs) in visualization diagrams from the Configuration Management module.

To modify an out-of-box icon, follow these steps:

1. Click **Configuration Management > Administration > Configure CI Visualization > CI Images**.
2. Use search or advanced search to find one or more records. Select the CI Type and CI Subtype, if applicable, from the CI Type menu.
3. Select the icon you want to modify from the record list. HP Service Manager opens the image associated with that CI Type.
4. To Add, Save As, or Remove the icon, right-click the image and select an action from the menu.

5. Click **Add or modify fields** to use the Add or Modify Tooltip Information wizard. Follow the instructions in the wizard to add, modify, or remove the fields that determine what text the system displays when a user hovers over the CI in a visualization diagram.
6. When you finish modifying the icon, click **Save**. Service Manager updates the CI Image record.
7. Click **OK**.
8. Log off and log back on to view your changes.

## Add a custom icon

### Applies to User Roles:

System Administrator

You can add a custom icon to represent a new configuration item (CI) in the visualization diagrams from the Configuration Management module.

To add a custom icon, follow these steps:

1. Add a new device type record in Configuration Management. For details, see ["Create a new configuration item \(CI\) type" on page 23](#).
2. Create the image you want to use for the CI icon.
3. Click **Configuration Management > Administration > Configure CI Visualization > CI Images**.
4. Select the device type and optionally a subtype.
5. Click **Add**.
6. Start adding the image by doing one of the following:
  - For Windows clients: right-click the **Image** field, select **Add**, browse to the file, and then click **Open**.
  - For Web tier clients: click **Specify Image**, type the full path of the icon file in the **File location** text field or browse to the icon file, and then click **OK**.

The icon opens on the CI Image record.

7. Click **Add or modify fields** to use the **Add or modify tooltip information** wizard. Follow the

instructions in the wizard that allow you to add, modify, or remove the fields and text that are displayed when hovering over the CI in the visualization diagram.

**Note:** When displaying the tooltip for a multi-line text field, CI visualization inserts a line break for each element in the tooltip. Additionally, if the length of one element is greater than 55 characters, the line is truncated with an ellipsis mark (...).

8. Click **Save**.

HP Service Manager maps the custom icon to the specified CI Type and saves it in the SYSATTACHMENTS table in the database.

## Modify an out-of-box decorator

### Applies to User Roles:

System Administrator

You can modify the out-of-box decorators that are shown in the visualization diagrams from the Configuration Management module.

To modify an out-of-box decorator, follow these steps:

1. Click **Configuration Management > Administration > Configure CI Visualization > Decorators**.
2. Use search or advanced search to find one or more records.

**Note:** Make sure that the Disable Decorator option is disabled. If you enable this option, the decorator is not displayed in the visualization diagram.

3. Edit the icon if needed.
  - For Windows clients: To Add, Save As, or Remove the icon, right-click the image and select an action from the menu.
  - For web clients: Click **Remove** to remove the existing image, and then click **Specify Image** to replace the existing image with a new one.
4. In the **Category Label** menu, the decorator label type is selected with the out-of-box settings. You can modify this field with **Change**, **Critical**, or **Incident**.
5. Add or modify Conditions.



6. You can use the **Decorator Position** menu to select where the decorator appears relative to the base image. The default setting is the lower right corner.
7. Select a priority from the **Priority** menu or accept the default setting.
8. Modify the line color to show upstream and downstream relationships:
  - Modify the line color for upstream relationships by selecting the highlight color from the **Upstream Highlight Color** menu or accept the default settings.
  - Modify the line color for downstream relationships by selecting the highlight color from the **Downstream Highlight Color** menu or accept the default settings.
9. Edit the information that displays when users hover over the decorator image:
  - In the **Tooltip** section of the record, you can add or edit the fields that show data when hovering over the decorator image in the visualization diagram.
  - In the **Group Label** field, you can type a group label to use when a user hovers the mouse pointer over the decorator image with a group label or accept the default settings.
10. When you finish modifying the decorator, click **Save** and click **OK**.
11. Log off and log back on to view your changes.

## Add a custom decorator

### Applies to User Roles:

System Administrator

You can add a custom decorator that is shown in the visualization diagrams from the Configuration Management module.

To add a custom decorator, follow these steps:

1. Create an icon to represent the new decorator by following these steps:
  - a. Click **Configuration Management > Administration > Configure CI Visualization > Decorators**.
  - b. Type a name in the **Name** field for the new decorator.
  - c. Click **Specify Image**, and then browse for an image in the Specify Image Location window.

- d. Select an image and click **OK**.
- e. Select **Add** from the menu.
- f. Navigate to the directory where you saved the custom decorator and select the file name.
- g. Click **Open**. HP Service Manager displays the icon on the decorator record.

**Note:** Make sure that the Disable Decorator box is not checked. If you select the box, the decorator is not displayed in the visualization diagram.

2. In the **Category Label** menu, select **Change**, **Critical**, or **Incident** in the decorator label type.
3. Add or modify Conditions.
4. You can optionally use the **Decorator Position** menu to select where the decorator appears relative to the base image. The default setting is the lower right corner.
5. Select a priority from the **Priority** menu or accept the default setting.
6. Modify the line color to show upstream and downstream relationships:
  - a. Modify the line color for upstream relationships by selecting the color from the **Upstream Highlight Color** menu or accept the default settings.
  - b. Modify the line color for downstream relationships by selecting the color from the **Downstream Highlight Color** menu or accept the default settings.
7. Edit the information that displays when users hover over the decorator image:
  - a. In the **Tooltip** section of the record, you can add or edit the fields that show data when hovering over the decorator image in the visualization diagram.
  - b. In the **Group Label** field, you can type a label to use when a user hovers over the decorator image with a group label or accept the default settings.
8. Click **Save**.
9. Click **OK**.
10. Log off and log back on to view your changes.

## CI node grouping

When you expand a node that contains multiple related Configuration Items (CIs) in a visualization diagram, it can slow system performance. To prevent performance issues, you can display CIs of the same type as a group by using node grouping.

You can select the option on any folder grouping of CIs to display the individual CIs. Activating this option opens a window that allows you to choose one or more CIs from a list. When you are finished selecting the CIs, the graph updates to show only the extracted CIs.

## Group configuration items (CIs) of the same type

### **Applies to User Roles:**

System Administrator

You can group configuration items (CIs) of the same type from the Configuration Management module. Node grouping prevents performance issues by displaying CIs of the same type as a group in visualization diagrams that contain multiple related CIs.

To group CIs of the same type, follow these steps:

1. Click **Configuration Management > Administration > Configure CI Visualization > Settings**. The CI Node Grouping form opens.
2. In the **When expanding a node, display a group when CIs of the same type exceed** field, type a threshold value, which controls the number of CIs of the same type that trigger the formation of a CI group.
3. Log off and log back on to view your changes. HP Service Manager visually represents CIs of the same type that exceed the new threshold as a grouped item.

## Expand a node group to view individual configuration items (CIs)

**User roles:** Configuration Manager, Configuration Administrator, Configuration Auditor, Change Manager, Change Coordinator, Incident Manager, Incident Analyst, Incident Coordinator

You can view individual configuration items (CIs) in any folder grouping in a visualization diagram by expanding the node.

To expand a node group to view individual CIs, follow these steps:

1. Launch CI Visualization from the Configuration Management, Change Management, or Incident Management module.
2. Click one time on a node grouping or folder inside of the CI Visualization diagram, and then select **Expand Group**. A list of CIs opens.
3. Press and hold the **ctrl** button, and then click each item to select one or more CIs from the list.
4. Click **Next**. The graph is updated to show the extracted CIs.

## Display of outage spreading in CI visualization

CI visualization displays the Item Down decorator to indicate that there is an active outage of a configuration item (CI). The edge connecting two CIs is highlighted red if both CIs are down. You can customize the Item Down decorator to meet your organization's specific requirements.

# Configuration Management overview

HP Service Manager Configuration Management identifies, defines, and tracks organizational assets by creating and managing records for those items. Other Service Manager applications can then access these records from a central repository. For example, when you create an incident record, Incident Management can access the hardware component details from the database and populate the new record with that information. This significantly reduces the time spent to resolve the incident, as well as alerts you to other potential incidents due to component relationships and dependencies defined in the database. Configuration Management enables you to achieve the following results:

- Accommodate changes to and reuse of standards and best practices
- Significantly reduce incident resolution time by using a central repository for critical infrastructure data that can be accessed by other applications
- Map configuration grouping and business relationships
- Meet business and customer control objectives and requirements
- Authorize changes and releases or resolve incidents and problems faster
- Minimize the number of quality and compliance issues caused by improper configuration of services and assets
- Optimize the use of service assets, IT configurations, capabilities, and resources

By using Configuration Management to manage IT assets, users and administrators or analysts can perform the following tasks:

User (Access based on User profile)

- Add, edit, and save asset (CI) records to the Configuration Management database, such as software, hardware, office electronics, telecommunication devices, and furnishings
- Manage CIs using predefined views to find your workload
- View and modify software installation information
- View the maintenance schedule for a CI

- View and modify service level agreement (SLA) information
- Add CIs to a contract and manage existing contracts

#### Administrator or Analyst

- Identify, control, record, report, audit and verify service assets and Configuration Items, including versions, baselines, constituent components, and their attributes and relationships.
- Account for, manage, and protect the integrity of service assets and Configuration Items throughout the service life cycle by ensuring that only authorized components are used and only authorized changes are made.
- Ensure the integrity of the assets and configurations required to control services and IT infrastructure by establishing and maintaining an accurate and complete Configuration Management System (CMS).

## Configuration Management tables

The information displayed on the Configuration Item form is the result of the device, attribute, and join files working together.

File or record	Definition
<b>Asset record</b>	A record that stores details about a piece of equipment or other component.
<b>Device type file</b>	Each asset in the Configuration Management database has a Configuration Item (CI) type. The CI type (the <b>devtype</b> file) contains one record for each CI defined. When you define a new CI type, the <b>devtype</b> file adds a new record.
<b>Device file</b>	Contains all asset records. Each record contains the unique name of the asset and the pointers to other files. For example, serial.no and vendor/supplier are common fields for both the server and modem device types.
<b>Attribute file</b>	<p>Contains data specific to an asset, depending on its device type. If an attribute file exists for a device type, each asset record for that device type has a corresponding attribute record in the device type's attribute file.</p> <p>For example, a storage device type has an attribute file named storage and contains fields that are specific to a storage asset, such as storage.type. A software license device type has an attribute file named softwarelicense that contains fields that are specific to a software license asset, such as product.pool.</p>
<b>Join file</b>	A record that displays information from the device file and attribute file for the specified device type. If you make changes to the data, Configuration

File or record	Definition
	Management writes the information into the corresponding records in the device file and attribute file. For example, a server device type has a join file named <code>deviceserver</code> . It contains fields that are a combination of the device file and the relevant attribute file, such as <code>serial.no</code> and <code>vendor/supplier</code> from the device file and <code>printer.queues</code> from the server file.

## Configuration item relationships

Service Manager tracks upstream and downstream relationships between configuration items (CIs). A relationship between CIs means that there is some dependency between CIs. If an upstream CI has an interruption of service, Service Manager assumes that all CIs with a downstream relationship to the affected CI also have an interruption of service. For example, if a network router has an interruption of service, then all servers and PCs that connect to that router also have an interruption of service.

Any given CI typically has one upstream relationship and one or more downstream relationships. CIs can have logical or physical relationships based on the logical name of the configuration item. CI relationships are independent of baseline, actual, or managed states.

## Device table

The device table is the central repository for Configuration Item (CI) information. The table contains a record for each CI (hardware or software). These records provide information to populate forms used by other Service Manager applications, such as Incident Management.

When you view asset records, the form tabs and field data vary, depending on the asset selected. Only information common to all network components is stored in the device table. Asset records are identified by the `logical.name` field.

Characteristics of the device table:

- Only one device table.
- One logical record in the device table for every tracked asset or CI.
- `logical.name` field is the unique identifier in the `dbdict` for the device table.

## Devtype table

The devtype table contains a record for each type of CI that you are tracking.

Depending on the CI component type, each logical component in the device table may have a corresponding record in a separate attribute table. Attribute tables define all common and unique attributes that appear when you select a CI type.

## Cigroup table

The cigroup table consists of all information used to define items in a CI group and a list of items included in the group. There is one record for each CI group defined.

Characteristics of the cigroup table:

- Contains the group name.
- The logical.name field is the unique identifier in the dbdict for the cigroup table.
- For list-based groups, contains a list of members.
- Baseline groups and Query-based groups are dynamic and therefore do not contain members.
- Specifies a group type, such as a query-based group, a list-based group, or a baseline group.
- If the group is a baseline group, it contains the baseline version and state. This does not apply to list-based or query-based groups.

**Note:** When setting thresholds for baseline group versioning, make sure that you set an appropriate number of versioning levels to grow with your environment. If you later need more version levels than specified at setup, you can increase the number of levels without recreating entire groups and relationships.

## Attribute tables

Most hardware or software Configuration item (CI) types have a set of descriptive attributes. Generally, each CI type has attributes that are organized into logical attribute records in an Attribute table. There are exceptions. Not all CI types have attribute tables, and, although the CI type records are different, a class of CI types can have the same attributes. The attribute record links to the CI record using the same identifier in the logical.name field. All other information in the attribute record and the CI record is unique.

Characteristics of attribute tables:



- There is one attribute table for every CI type.
- Attribute tables have the same name as their CI type.
- The logical.name field is the unique identifier in the dbdict for the attribute table.

For example, the following is a list of the out-of-box attribute tables for standard network components:

- bridge
- circuit
- controller
- CPU
- FEP
- modem
- multiplexer
- path
- peripheral
- port
- switch
- workstation

## Join tables

A join table is a temporary logical table that has the following properties and functions:

- Resides only in memory
- Contains no records
- Is not written to the database

- Points to the data in the device table and related attribute table.
- Does have a dbdict

The join table temporarily joins the fields in the device table record with the fields in the attribute table. Join tables are never populated. They only serve as pointers to fields that are extracted from the device table and the attribute tables and they display the joined data in a form. When you make changes to the join table by making changes to the data in a form, Service Manager writes the changes to the original device and attribute tables.

As a rule, the join table name has *device* as a prefix and the attribute table name as the suffix. For example, the join table name for a PC component is *devicepc*. The form that displays the joined data is named *device.attribute*, for example, *device.pc*.

Join tables are named according to the following conventions:

- Join table name is a combination of the device table name and its attribute table name (*device.attribute.name*).
- *Logical.name* field is the unique identifier in the dbdict for the device and attribute tables.

## Creating subtables from an array of structures

Service Manager enables a dbdict administrator to manage data more effectively by creating subtables of unique and non-unique attributes within an array of structures. You can use this feature to achieve the following benefits:

- Improve mapping to external SQL database tables.
- Implement a more cost-effective solution for managing attribute information.
- Simplify queries.

The dbdict administrator can identify two subtable names for each array of structures in the dbdict. One table contains the names of unique attributes. The second table names non-unique attributes. A pop-up utility dialog box enables you to identify which attributes are unique.

The subtable feature helps you create queries that can return detailed information. This type of available detail can improve business and management decisions. You can create subtables for an array of structures in any dbdict. Service Manager provided out-of-box subtables already created for all arrays of structures in the inventory dbdicts.

## Configuration Management forms

Configuration Management uses three types of forms.

Form	Description
<b>Device</b>	The forms device and device.g display query results for fields common to all CI types. For example, a PC record may appear using device.g.
<b>Attribute</b>	There is one form for each attribute file. The form displays detailed attribute data. The form name matches the attribute file name. For example, if the attribute file name is circuit, the form name is circuit.
<b>Join</b>	There is one form for each join file. The form enables you to view, populate, and update fields in both device and attribute files. Normal functions are available to add, delete, and update the records. Special functions are available to access parents and children. For example, if the join file name is devicecircuit, the form name is device.circuit.

## Configuration item types and subtypes

Service Manager includes the following out-of-box Configuration Item (CI) types and subtypes.

Type	Subtype
<b>Application</b>	Anti-Virus / Security Back-up Business Development Tools Entertainment Graphics Internet/Web Networking Operating System Reference Other
<b>Business Service</b>	Application Service Business Service Infrastructure Service
<b>CI Group</b>	Ad hoc Baseline
<b>Computer</b>	Desktop Dumb Terminal

Type	Subtype
	Host Laptop Logical Partition MAC Mainframe Server Terminal Server Tower Unix VAX Windows
<b>Display Device</b>	Monitor Projector
<b>Example</b>	Template of common device fields that you can use to create a new device type.
<b>Furnishings</b>	Armoire Artwork Bookcase Chair Computer Desk Desk Collection File Cabinet Meeting Table
<b>Hand Held Devices</b>	Blackberry Device Cell Phone GPS Device Pager PDA
<b>Mainframe</b>	Controller FEP Host CPU LPAR NCP
<b>Network Components</b>	ATM Switch Concentrator Firewall Gateway Hub LB Modem Network Component Network Interface Card

Type	Subtype
	RAS Router Switch Router Switch
<b>Office Electronics</b>	Calculator Camera Copy Machine Fax Machine Multifunction Net Printer Paper Shredder Printer Speaker Television Typewriter UPS VCR Word Processor
<b>Software License</b>	DBMS License Development Tool License Enterprise Management License Operating System License Outlook Productivity Tools License Project Management License Utility Software License
<b>Storage</b>	CD Burner CDRW Direct Attached Storage (DAS) HDD Network Attached Storage (NAS) Storage Area Network (SAN) ZIP
<b>Telecommunications</b>	Desk Phone Flush Wall Mount Headsets and Accessories NBX Paging Solution PBX Surface Mount

## Configuration item maintenance history

When a maintenance task runs, the Maintenance History function tracks the number of incident records, change requests, or request management quotes the maintenance task generated. If you set the maintenance task to create a single incident, change, or quote, the number recorded is one (1). For maintenance tasks that generate a collection of incidents, changes, or quotes, the number recorded may be different every time the task runs.

For example, on May 1, two servers are running in City A, but by June 1, an additional server is added. Therefore, a task that generates a change for every server in City A would generate two (2) changes in May, and three (3) changes in June. The maintenance history function keeps track of these numbers.

## Searching Configuration Management

You can search for a specific configuration item record or a set of configuration item records. For example, if you type the beginning letters of the configuration item in the Display Name field, such as `sap`, and click **Search**, a list of configuration items starting with `sap` is displayed. The first record in the list is displayed in the configuration item details form. If you leave all fields blank, click **Search** to perform a true query and return a list of all configuration item records.

## What is a joined query?

In Configuration Management, joined queries enable you to search a specific device type by using the Search form for that device type. Join tables are used by HP Service Manager to make searches more efficient and useful. When you search for a specific device type, the system creates a join table that includes those items that have the attributes you searched for based on the search criteria you provide.

## Generating a large number of incident records

The Scheduled Maintenance advanced query function provides an anti-spam feature. By default, the system generates a maximum of 50 incident records, no matter how many records the advanced query returns. This prevents users from accidentally creating a Scheduled Maintenance task that opens an incident record for every asset in Configuration Management. However, if you want to generate a larger number of incident records, and you have administrative rights, you can increase that number.

## Configuration Management security options

Security options are available to users with the SysAdmin and ICMAAdmin capability words. Security options are independent of the options selected in the Configuration Management profile record.

Field	Definition
<b>Add</b>	Add component records.
<b>Update</b>	Update component records.
<b>Delete</b>	Delete component records.
<b>Print</b>	Enables the print option for the user or group.
<b>Fill</b>	Enables the Fill function for the user or group.
<b>Find</b>	Enables the Find function for the user or group.
<b>Mass Delete</b>	Select a group of configuration records and delete them.
<b>Change Devtype</b>	Change the CI type of an asset.
<b>Mass Update</b>	Select a group of configuration records and modify fields in those records.
<b>Open Incident</b>	Open an incident record from within Incident Management.
<b>Request Change</b>	Open a change request in Change Management from within Configuration Management.
<b>Query Window</b>	Run structured queries in Configuration Management.
<b>Export</b>	Export component records to an external file.
<b>Count Records</b>	Count the records in a record list.
<b>Views</b>	View alternate forms in Configuration Management and additional information, such as Baseline version queries.

The following options are available only when selected.

Field	Definition
<b>Require Password</b>	Require a password to access Configuration Management.

Field	Definition
<b>Confirm on End</b>	Display a confirmation form before exiting Configuration Management.
<b>Allow Inefficient Queries</b>	Execute an incomplete or partially keyed query. This option is overridden if you select Skip Inefficient Query Warning.
<b>Skip Inefficient Query Warning</b>	Disable the message warning the user that a non-keyed query will be slow. If you choose this option, you will override Allow Inefficient Queries.

## Service Portfolio Creation

The HP Service Manager Configuration Management module provides service asset and configuration management and can be used to manage service portfolio records. The Configuration Management process manages service assets to support other IT Service Management processes. Services are represented as CIs in HP Service Manager, which enables their access to all related support and delivery processes. Out-of-box lifecycle processes include:

- Defining a new service
- Discovering, defining, and managing CI relationships
- Adding service levels (service-oriented SLA)
- Publishing a service to the HP Service Manager Service Catalog
- Signing up customers and managing their subscriptions
- Fulfilling subscription requests through HP Service Manager Change Management
- Monitoring and supporting through Incident, Change, and Problem Management
- Monitoring SLAs and optimizing service delivery

Services are provided by IT to satisfy a range of business needs. Services can be delivered to individuals, departments, or an entire enterprise as defined by service subscriptions. Sample services can include email, a billing system, workstation backup or office automation. The service instance is the deployment of a service, modeled as a CI in the CMDB, and it can have related CIs, customers, incidents, and changes.

Once the service is deployed, the Service Catalog lists and describes all of the services that IT offers, providing customers with a view to browse and make requests. Catalog items can range from single user workstations to department or enterprise application support.

Users can create new CI record instances in various ways, including:



- Creation of a new blank record
- Cloning of an existing record

A wizard is provided to create a new CI.

## Service Portfolios

The following fields capture Service Portfolio details.

19 fields described in ITIL	Corresponding Field in HP Service Manager
Service name	Display Name/CI Identifier
Service description	Description
Service status	Status
Service classification and criticality	Secrity/Sox/Export Control classification/Critical CI
Applications used	Software/Applications
Data and/or data schema used	In HP UCMDB, service CI can be mapped to its database (like Oracle) down to its schema/tablespace.
Business processes supported	In HP PPM, see screenshot below
Business owners	Owner
Business users	Subscribers
IT owners	CI Owner
Service warranty level, SLA and SLR references	In Service Catalog module
Supporting services	Relationships
Supporting resources	Supporting Groups
Dependent services	Relationships
Supporting OLAs, contracts and agreements	Service Contract
Service costs	In HP Asset Manager
Service charges (if applicable)	In HP Asset Manager and HP Application Portfolio Management

Service revenue (if applicable)	Captured in HP Application Portfolio Management
Service metrics	Metrics

## Attachments

Each service record can contain multiple attachments, including business case documents.

## Tailoring Fields of Records

Customers can add fields to the service record and tailor them into any of the service views for update, review, and management.

## Service Status

HP Service Manager supports two separate states for a Business Service – the Status field, which is common for all CIs, and the Service Status field that is only for Service type CIs.

## Service Development

The service under development can be recorded using service status fields.

## Third-Party Services

Each service record lists the vendor/supplier that provides the service, if applicable. Third-party information can be recorded in contract and vendor records that are associated with the service.

## Service Portfolio Lifecycle

HP Service Manager provides a complete set of integrated lifecycle processes that support recording, updating, monitoring and tracking business and IT services from inception through pipeline and catalog to retirement. A service is defined as anything provided by IT to satisfy a range of business needs. Services may be delivered to individuals, departments, or an entire enterprise. Sample services may include: enterprise systems such as email, line of business applications such as a billing system, and fulfillment of individual employee requests such as a personal workstation backup service or an office automation bundle.

The lifecycle activities and processes supported in HP Service Manager include:

- Modeling service instances using Configuration Management
- Building and visualizing relationships to IT systems and CIs
- Publishing service definitions in the Service Catalog
- Defining supported Service Levels for each definition in the Service Catalog
- Self-service requesting of services for individuals and departments
- Fulfilling service requests with Change or Request Management
- Tracking the full lifecycle of subscriptions to services, from request, to fulfillment, to cancellation
- Monitoring and supporting the services through Incident, Change, and Problem Management
- Measuring and analyzing service delivery against metrics and goals
- Optimizing service delivery and support

An important aspect of the lifecycle is that it represents a continuous flow. Within the cycle, new services are defined while others may be approaching retirement. New customers are added as users of services, while continued analysis and optimization makes improvements in the delivery and support received by these customers.

## CI Records And Lifecycles

The HP Service Manager Configuration Management module provides service asset and configuration management. The Configuration Management process manages service assets to support other IT Service Management processes. Services are represented as CIs in HP Service Manager, which enables their access to all related support and delivery processes.

The HP Service Manager Configuration Management module captures information on CIs and CI attributes in CI records. HP Service Manager uses the concept of Device Types to categorize CIs, and to define what information can be collected for each CI.

Each CI record has a status field. This field can be used to track the lifecycle status of a CI, including status codes such as: "In Use," "In Stock," "Retired/Consumed," "Awaiting Receipt," "Return for Maintenance," "Return to Supplier," "Missing," "Planned/On order," "Received," "Reserved," "Installed." Status codes can be created to meet the customer's needs, and HP Service Manager tracks a complete history of changes to the status field. By filtering on the specific value user can get a view/list of retired services.

## Lifecycle transitions

Each service includes lifecycle status that marks its transition into Released, Operation, and Retirement stages.

Transition into these stages can be coupled with Change workflows that drive related activities. In addition, a Service Catalog view can display those services currently available for public consumption.

## Lifecycle States

Each service record includes lifecycle states relating to the process of defining, analyzing, approving, chartering, and so on the service. Each state transition is typically matched to a Change workflow that drives the lifecycle tasks for the service.

## Pipeline Services

The HP Service Manager Configuration Management module provides service asset and configuration management. The Configuration Management process manages service assets to support other IT Service Management processes. Services are represented as CIs in HP Service Manager, which enables their access to all related support and delivery processes.

The HP Service Manager Configuration Management module captures information on CIs and CI attributes in CI records. HP Service Manager uses the concept of Device Types to categorize CIs, and to define what information can be collected for each CI.

Each CI record has a status field. All CI's are tracked through their lifecycle using the Status field, and the Environment field with values such as "Development", "Test", "Production", "Failover." By filtering on the specific value user can get a view/list of services in the pipeline.

## Service Inventory

List views of services in the Catalog/Portfolio can be configured and viewed by different user roles.

## Service Portfolio Presentation

HP Service Manager displays service portfolio items, including planned, deployed, and retired services. Each service has associated costs, and demand for services can be recorded through Service Catalog requests.

The Service Catalog documents services at a general level so that they can be requested by business users. Catalog items can be linked to services managed in the Configuration Management database. This is how, when a request is fulfilled, a new subscription can be added to the service CI.

Business planning can be performed in the HP Project and Portfolio Management tool suite, and HP reporting tools can be used to compare actual versus forecasted consumption and costs.

HP Executive Scorecard can manage links to other systems on a KPI level. Additional links allows users to link back to the Service Catalog to help provide a better understanding of the KPI results.

## Service Asset & Configuration Management (SACM) Reports

### SACM Summary Reports

Name	Description
Configuration Item Relationships	The Configuration Item Relationships report breaks down the configuration items (CI) and their downstream relationships by type and then by subtype. If a CI has more than one downstream relationship, the report displays the total count. Users can double-click the count to view the full list of downstream relationships.
Configuration Item Summary	The Configuration Item Summary report breaks down the configuration items by type and then by status. This report contains a pie chart displaying all CIs by type. Users can double-click any piece of the chart to display a detailed breakdown of the CI type by its status. This report uses grouping to provide a view of total counts by type and status.
Percentage of Configuration Items Related to Other Configuration Items	The Percentage of Configuration Items Related to Other Configuration Items report provides an overview of the number of CIs within the CMDB for which the relationship with other CIs has been defined compared to the total number of CIs within the Configuration Management System (CMS). It only shows the relationship between CIs. This report contains a graphical representation of the breakdown of all CIs by relationship with other CIs using a pie chart. Users can double-click the "CI related to other CIs" piece of the pie to display a detailed breakdown of that CI type by its subtypes. This report organizes the information using groups and sub-groups to help users quickly view percentages and total counts by type and subtype of CIs.

### SACM Compliance Reports

Name	Description
------	-------------

Actual policy statuses	Displays policy status information on all CIs for which there are defined policies
All authorized changes	Displays all authorized changes that occurred between two points in time
All detected changes	Displays all changes that were detected between two points in time
Authorized configuration comparison	Compares authorized changes in configuration between two points in time
Authorized planned changes	Displays all planned changes that were authorized between two points in time
Authorized unplanned changes	Displays all unplanned changes that were authorized between two points in time
Changes pending authorization	Displays all changes that are pending authorization
Configuration comparison	Compares configurations between two points in time
Detailed policy drift	Compares the policy status on all CIs for which there are defined policies and displays detailed policy information about the breached CIs between two points in time
In-breach CIs	Displays policy status information for all CIs whose policies are in breach

## CMS Reports

Name	Description
Application Breakdown Report	This report displays a breakdown of applications and their versions. Major applications are Running Software CITs that have been assigned the MAJOR_APP class qualifier.
Asset Report	This report displays a list of all the CIs in a specified view, their attribute values, as well as their child CIs in the CMDB.
Changed Application Report	This report displays a bar graph showing the number of detected changes in applications within a defined period.
Changed Views Report	This report displays the number of changes that occurred in a specific view within a defined period.

CI Change Report	The CI Change report enables you to view and analyze the actual changes made to a specific CI and its children.
CMDB Utilization Report	This report displays general CMDB statistics. For example, the statistics can include the number of Impact rules created, how many CIs are contained in the CMDB, or how many snapshots have been taken.
Compare Archives Report	This report enables you to compare two archived reports or an archived report to the current version of the report.
Compare CIs Report	This report enables you to compare the hierarchies of two compound CIs. A compound CI is a CI that is linked to another CI by a relationship with the CONTAINER qualifier. You can display the compared CIs and their child CIs that appear in a selected view, or in the CMDB.
Compare Snapshots Report	This report enables you to compare two snapshots of a specific view taken at different times. It enables you to visualize the differences between the views by comparing the statuses of the view at the times the snapshots were taken.
Configuration Manager Policy Report	This report displays Configuration Manager policy compliance level data.
Database Breakdown Report	This report displays the breakdown of database types and versions. You can view all databases deployed in the system or the databases deployed at a specific location.
Delete Candidates Report	This report displays the CITs and relationships that were deleted within a defined period, and the ones that are about to be deleted.
Dependency Report	<p>This report enables you to generate a list of all the relationships of the type Dependency that connect between servers in the selected view, or between the servers in the CMDB and the servers within the selected view.</p> <p>The report includes relationships that:</p> <ul style="list-style-type: none"> <li>• Exist between databases and clients</li> <li>• Exist between clients and servers</li> <li>• Are created as a result of an MQ connection</li> </ul>
Discovery Errors Report	This report enables you to uncover specific problems that Data Flow Management encounters during a run, for example, incorrect credentials.
Generic Breakdown Report	<p>This report displays the breakdown of CI types by the following:</p> <ul style="list-style-type: none"> <li>• The CITs grouped under the selected CIT in the CIT tree</li> <li>• A CIT attribute</li> </ul>

Gold Master Report	This report compares one or more CIs to another CI that has been designated as a Gold Master, and specifies which of the compared CIs are configured differently from the Gold Master CI.
Impact Analysis Report	This report displays a list of CIs that are impacted in the system as a result of simulated changes.
Network Device Breakdown Report	This report displays a breakdown of network devices.
Node OS Breakdown Report	This report displays a breakdown of operating systems. You can view all deployed operating systems or you can view data for operating systems at a certain location or running on a certain subnet.
Number of Changes Report	This report displays the number of detected changes in a CIT (additions, deletions, or updates) within a defined time period.
Topology Report	This report displays the topology of a view in report format.

## Reporting cost

HP Executive Scorecard provides transparency into the cost of a service and its distribution to the different consumers. The HP Executive Scorecard measures the value proposition of a service based on the use of the service components (Network, Storage, Server and Application).

## Reporting Service Requirements

HP Executive Scorecard tracks requirements, project scope changes and service proposals based on Requirement Management and Portfolio Demand Management. These can be measured also on a service level.

## Data Validation

Integration with discovery tools supports monitoring the infrastructure that is part of the service. Any updates/changes can be validated against planned change records to help ensure no unplanned or unexpected variations are introduced into the environment that differ from what is expected and approved in the service record.



## Service Portfolio Management Access Control

Service Portfolio Management leverages Configuration Management, which is controlled by security profiles. These user profiles allow authorized users to create, modify, and close configuration items (CI). The system provides options for Never, Always, and When Assigned. For example, one user may be able to create and close CIs but only modify items assigned to them.

Access to functionality within each module is governed by HP Service Manager security utilities, which define access based on role and user.

HP Service Manager also provides a security control to segment data between multiple customers. “Mandanten” controls identify which customer data a particular user or group can access, update, or both.

## Service Portfolio Auditing

HP Service Manager does not audit the Service Portfolio items but has a utility by which the system can create a copy of the catalog item record every time it is updated. In this way, all changes to the items are fully documented.

HP Service Manager date/time and user stamps each record when the record is created or saved.

HP Service Manager also tracks changes to CI attributes in the Configuration Management module.

HP Service Manager provides an audit trail capability that identifies the updates to the CIs/services. Each time the CI record is updated (whether manually or automatically), updates document the attributes that were updated.

HP Service Manager also provides an auditing feature that records modifications to fields within the HP Service Manager database. Field modifications are detected by comparing the fields in the original version of a record to the updated version. When modifications are detected, an Audit Log entry is recorded for each changed field showing the name of the modified field, the old and new version of the data, the current date/time, and the current operator’s user ID.

## Service Portfolio Notification and Escalation

Throughout the HP Service Manager suite, several ways of providing alerts and escalations are provided. The Service Portfolio items and configuration management module workflows control the requesting behavior notification and alerts while the appropriate fulfillment module controls notification and escalation for fulfillment.

Throughout the HP Service Manager suite, there are several ways of defining and providing alerts and escalations. The Service Catalog items and Configuration Management module workflows control notification and alerts associated with requests, while the appropriate fulfillment module controls notification and escalation for fulfillment.

1. **Notifications:** HP Service Manager provides a broad and deep solution to deliver notifications to stakeholders whenever the request or fulfillment is opened, updated or closed. The notification engine allows administrators complete control over
  - a. What notification vehicle (for example, email) and format to deliver
  - b. On what conditions to send the notification
  - c. To whom the notification should be sent
2. **Alerts:** The Service Desk module includes the ability to set criteria for the generation of alerts. For example the administrator can set rules for three stages of alert and a deadline condition. When these targets are met, specified users receive alerts and notifications through the HP Service Manager tool, email or other method. Fulfillment records in Request Management or Change Management have even more robust notification and alert capabilities.
3. **Escalations.** Business rules can be used to trigger automated escalations of records under various conditions. Examples include: should the status remain unchanged for too long; the record is “reassigned” too often between assignment groups; or for other rules as defined. In addition to documenting the violation of these rules, the administrator can configure HP Service Manager to act in certain ways should these rules be breached. For example, if a record remains in open state for too long, reassign it to the assigned user’s manager. Fulfillment records in request management or change management have even more robust notification and alert capabilities.

Out-of-box HP Service Manager provides various notifications during the lifecycle of services. HP Service Manager also provides notification controls are activated for CIs or for Service Catalog items. The alert and escalation capabilities are not enabled out-of-box. However, these capabilities can be added quickly and easily via simple configuration settings.

## Service Portfolio Archiving

Standard HP Service Manager workflows include deactivation of Service Catalog or CI records. These activities do not actively remove records from the system.

The most typical approach for archiving records is to leverage the chosen RDMS tools from Oracle, MS SQL or DB2 to perform database administration for purging and archiving.

HP Service Manager provides an archive and purge tool that can be configured by table and criteria for archiving. This is a facility only the administrator would use. This capability allows the ability to archive either manually or on a scheduled basis.

One new capability in this area is the ability to take advantage of the HP archive tool suite. These tools allow data to be archived out of HP Service Manager into a system-accessible file system. The production or alternative instance of HP Service Manager can then be used to access these data records. See the link below for additional details.

## Integration: Service Catalog And Knowledge Management Modules

The service portfolio is captured in the HP Configuration Management module and can also be displayed to end users through the Service Catalog module. HP Service Manager also has a Knowledge Management module that can be used to capture information specific to services.

## Financial Management

HP Service Manager displays service portfolio items, including planned, deployed, and retired services. Each service has associated costs, and demand for services can be recorded through Service Catalog requests.

Business planning can be performed in the HP Project and Portfolio Management solution, and HP reporting tools can be used to compare actual versus forecasted consumption and costs.

## Financial Data

Each service in the Service Catalog displays the unit cost of service (including incremental ongoing costs associated with service options), as well as any recurring costs.

HP Service Manager query and reporting tools, and HP IT Executive Scorecard, can be used to consolidate cost information and apply this to cost centers on an ongoing basis.

## Financial Planning And Analysis Data

HP Executive Scorecard provides the unique capability to correlate financial data based on procurements, maintenance, leasing, licenses, labor and other project-related cost. All expenses can then be assigned to IT services or applications and then can be correlated to service usage or demands

to offer our users an insight regarding optimization opportunities, assuming that if there is no demand for IT service or resource then there might be a need to align budget accordingly.

In addition, HP Executive Scorecard can measure service license and labor usage and correlate this to business demands.

## IT Financial Management

HP IT Executive Scorecard IT Financial Management (ITFM) data is gathered from the relevant data sources and calculated according to the finance KPIs related to the Financial Management Context (universe). ITFM is a component of HP IT Executive Scorecard. These KPIs have KPI breakdowns. The KPI breakdowns are used to provide overview data in the Financial Summary page in the Dashboard.

The Financial Summary page in the Dashboard has three tiers containing financial components. The first tier displays a high level view of the data for the selected year. The second tier is a monthly drill down of the first tier. The third tier shows charts and tables that provide a more detailed view of the data. These are described below.

### Financial Summary

The Financial Summary Page in the Dashboard provides an organization's CIO, IT Financial Manager, IT Financial Analyst, and IT Manager with a view of how their business services, organizations, customers, and programs are doing from the perspective of staying within a defined financial Plan of Record (PoR).

The page displays information on all costs independently of their context (Business Service, Organization, Program, or Customer).

The ITFM Dashboards help answer business questions such as the following:

- What is the actual versus planned cost for the Business Services, Organizations, Programs, or Customers with the biggest budgets?
- How accurate is our planning?
- In what areas were expenses greater than anticipated?
- What are the capitalized expenses compared to the operational expenses (CapEx or OpEx)?
- What are the discretionary expenses compared to the non-discretionary expenses?
- What is the year over year comparison of actual versus planned costs between top 10 locations?

The Dashboards let users view planned-vs-actual performance for customers, IT organizations, business services, and programs. To help focus management attention, users can also use Dashboards

to view the customers, IT organizations, business services, programs, and cost categories that have the highest positive variance.

The other components present the distribution of the service cost by:

- Business Service
- Organization
- Program
- Customer

These options help the user address the question “What is the planned-vs-actual cost for the Business Services, Organizations, Programs, or Customers with the biggest budgets?” in context of the options.

Users can also see year-over-year comparison of planned-vs-actual costs between top 10 locations, including overtime cost distribution and year-over-year planned-vs-actual cost.

The complete ITFM package contains different applications that enable management to perform advanced analyses using data extracted from HP applications. ITFM uses an integrated version of SAP® BusinessObjects Enterprise XI to complete the extract, transform, load (ETL) processes and format out-of-box and ad hoc analytics.

#### Summary of IT Financial Management Features

Feature	Description
IT Financial Management (ITFM)	HP IT Executive Scorecard component that provides IT stakeholders with actionable cost information that supports effective cost containment and investment decisions. It includes IT cost consolidation, IT cost allocation, allocation scenarios, budgeting, IT cost dashboards, Cost Explorer, analytics, and integration with HP Asset Manager, HP Project and Portfolio Management, and alternate source data in Microsoft Excel spreadsheets.
Data	Imports historical incident, project, and financial data into the data warehouse to populate scenarios and analytics. The data warehouse stores data that originates in disparate external applications but undergoes transformation when extracted and consolidated using a newly designed ETL process managed by the data warehouse.
Application Infrastructure	Applications run in a single framework with a single navigation pane that accesses different components, out-of-box analytics, and SAP® Business Objects Enterprise XI in an integrated environment.

ITFM includes several ways to analyze the allocation results. For financial analysts, ITFM offers a streamlined interface called Cost Explorer that helps the analyst answer ad hoc questions quickly. For business users and IT management, ITFM offers out-of-box analytics that show important financial data concerning entities such as organizations and business services. ITFM also offers a dashboard that

helps users quickly identify IT financial areas that require attention. The HP IT Executive Scorecard ITFM component has these features:

- **IT cost consolidation:** ITFM allows an organization to consolidate planned and actual costs in a single system. It gives IT the big picture as well as the detail it needs to more effectively manage budget performance.
- **IT cost allocation:** With the ITFM allocation engine, IT can distribute cost across multiple cost models giving it the ability to analyze budget performance from many angles.
- **Allocation scenarios:** Users can create multiple “what-if” allocation scenarios and use the results to compare budget versions against actual costs and budget objectives.
- **Budgeting:** The ITFM budgeting feature enables IT finance managers to plan a budget for three different planning time frames: one, two, or three years.
- **IT cost dashboard:** The ITFM Dashboard lets IT executives view planned versus actual performance for IT overall, by customer, by IT organization, by service, by program, and by project. IT executives can also see the areas with the highest variance to help focus their management attention.
- **Cost explorer:** The ITFM Cost Explorer allows IT finance and cost analysts to systematically explore cost variance by organization, business service, application, program, project, cost center, and cost category, as well as other dimensions. By slicing and filtering data across multiple dimensions, analysts can gain new insight into what is driving costs, where the largest variance to plan is taking place, and why the variance might be happening.
- **IT cost analytics:** Through Web Intelligence analytics, users can see daily updates on planned versus actual performance. Users can modify the out-of-box analytics as necessary to support the specific cost analysis needs of their organization. Users can also perform ad hoc analysis of cost data to answer less common questions while knowing that the data they are seeing is consistent across all users.
- **Out-of-box integrations** with HP Asset Manager software, HP Project and Portfolio Management software make gathering cost data more efficient. Integration processes keep the data current.

## Configuration Item Relationship Types

Relationship type	Description
Aggregation	The "Aggregation" relationship describes a whole-part structured relationship between two elements that does NOT include any impact or dependency.

ClientServer	This Relationship represents a Client-Server dependency between, for example, two RunningSoftware instances.
Composition	The "Composition" relationship represents a strictly structured relationship, which means that the composite (part) is part of the lifecycle of the whole and that someone would perceive the "whole" as a different thing when a part is taken away.
Connection	The "Connection" relationship type represents a (potentially) undirected relationship between two elements that does not represent any kind of structure or dependency. Both participating elements have an independent lifecycle. There is no status propagation or health impact between connected elements.
Containment	The "Containment" relationship describes the case where containee is contained in a container. The key aspect of this relationship is the notion of exclusivity. This means that container is the sole user of the contained object and other objects are not allowed to use the containee.
Dependency	The "Dependency" relationship describes the logical dependency of one element on another. A dependency is a semantic relationship where a change to the influent or independent element may affect the semantics of the dependent modeling element.
ExecutionEnvironment	The "ExecutionEnvironment" is a kind of dependency relation where an instance of the end1 class runs in an instance of the end2 class and therefore depends on the end2 instance. Example: "A J2eeApplication isRunBy a J2eeServer" and a "J2eeServer runs a J2eeApplication"
ManagedRelationship	PSEUDO-RELATIONSHIP. DO NOT USE! This relationship type is provided solely to establish the attribute inheritance down to the core relationship types (Dependency, Composition, etc). Class relationships should not be based off of this type.
Membership	The "Membership" relationship describes a non-structural relationship between two elements (called member and group). Examples: A NodeGroup contains Nodes. NodeGroup A may contain all nodes of DNS domain "*.deu.hp.com". Another NodeGroup B may contain all nodes with Windows operating system. A specific node may be member of both groups.
Ownership	The "Ownership" relationship is a connection that expresses that an instance of the end1 class owns an instance of the end2 class. Ownership is distinguished from Responsibility, in that ownership means 'accountability'. E.g. A person owns a project (is accountable for driving the project) or a person owns the incident/problem (is accountable for its resolution).
Realization	An instance of the end1 class realizes an instance of the end2 class. Realization is has a stronger connotation than just "dependency" from which is a specialization. Often the user sees the two entities as not being different on the first glance.Example: A filesystem is an exported filesystem

Responsibility	The "Responsibility" relationship is a connection that expresses that an instance of the end1 class isResponsibleFor an instance of the end2 class. Responsibility is distinguished from Ownership in that it is NOT about "accountability", but rather "assignment". E.g. A person may 'own' a project, or a person may be 'responsible' for a project.
TimeBoundConnection	Assets are connected to Contracts: a Contract may mention and involve zero or more Assets. An Asset may be mentioned in zero or more Contracts. This RelationshipType permits attributes such as contract start and end date to be attached to the relationship, which is necessary because the contract may involve different assets at different times.
Usage	The "Usage" relationship is a kind of "Dependency" where one element uses (and thus depends on) another element.

## Service Levels and Subscriptions

Each service record has associations to one or more Service Levels offered to potential customers. In addition, the services are linked to actual customers and their contracted SLAs. SLAs can be associated to services, and performance against defined SLAs is displayed graphically in HP Service Manager.

Moreover, service subscriptions track the relationships between IT customers and the services they use. A service subscriber, either an individual user or an entire department, can request subscriptions to various services listed in the Service Catalog. A subscriber's list of subscriptions may reference access to shared services and individually assigned CIs. Subscriptions can include SLAs, history, custom options, and pending change requests.

HP Service Manager offers two modes of support for requesting service subscriptions: requests by using the Service Catalog and direct requests by using Change Management fulfillment.

Each subscription can be associated with one Service SLA. The subscription table stores the SLA ID for the Service SLA associated with the subscription. HP Service Manager supports multiple Service SLAs when an interaction, change request, incident, or problem record is created.

A power user can search for and view the Service SLA title when viewing a subscription record. A self-service user can view the Service SLA in a read-only find field. When a self-service user clicks the Find button, a detail window opens that contains the Service SLA ID, title, and description.

## Service Subscriptions and Business Data

Service subscriptions track the relationships between business users and the services they use. A service subscriber, either an individual user or an entire department, can request subscriptions to various services listed in the Service Catalog. A subscriber's list of subscriptions may reference access



to shared services and individually assigned CIs. Subscriptions can include SLAs, history, custom options, and pending change requests.

This function is also available in HP Project and Portfolio Management (HP PPM). HP PPM Application Portfolio Management (APM) module maps business processes to applications.

In the HP UCMDB product, the CI and CI relationships are governed by the HP Universal Data Model (UDM). From that viewpoint, user can see three CI types: Business Process, Service, and Business Service – all extensions of CI type Business Element:

The CI type BusinessProcess is defined as follows in the HP UDM:

“A Business Process is a collection of interrelated tasks (user-triggers or automatic), which solve a particular issue to define the functional needs of the business service being provided. A process can be hierarchically decomposed into business activities. Usage: Some of the business processes are provided to the external customers, others are internal processes that are essential for the effective management of the business. Example: Order processing, new employee on-boarding, etc.”

The HP UDM allows business process CIs to be connected “downward” to service CIs and “upward” to business service CIs.

The logic is supported by the definition of CI type “service” (below) in HP UDM which can represent an IT service:

“A Service is an abstract class which may represent an IT or Business Service, including Infrastructure Services which are delivered by IT in support of a Business Service.”

## Service Subscriptions and Technical Data

Each service is linked to the applications, hardware, and other CIs (including other services) that comprise the service. OLAs, contracts, and other agreements can be created in the Service Level Management module and linked to the service.

Moreover each subscription can be associated with one service SLA. The subscription table stores the SLA ID for the service SLA associated with the subscription. HP Service Manager supports multiple service SLAs when an interaction, change request, incident, or problem record is created.

A power user can search for and view the service SLA title when viewing a subscription record. A self-service user can view the service SLA in a read-only find field. When a self-service user clicks the Find button, a detail window opens that contains the service SLA ID, title, and description.

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