HP Service Manager

Software Version: 9.41

For the supported Windows® and UNIX® operating systems

Problem Management help topics for printing

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Problem Management user roles

The Problem Management module has the following user roles:

- "Problem Analyst" below

- "Problem Coordinator" on the next page

- "Problem Manager" on page 14

- "Problem System Administrator" on page 17

Problem Analyst

The Problem Analyst user role has the following responsibilities:

- Investigate and diagnose assigned problems for workarounds and/or root causes.

- Review and accept or reject assigned known errors.

- Investigate and diagnose assigned known errors and propose solutions and workarounds.

- Implement corrective actions and close known error.

To execute this role, the Problem Analyst has following tasks available:

> **Note:** For an overview of how these task fit in the Problem Management workflow, see "Problem Management workflows and user tasks" on page 18

Category:	Tasks:
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Problem Coordinator

The Problem Coordinator user role has the following responsibilities:

- Periodically perform analysis to see if new problems need to be registered.

- Register problems.

- Assign work to Problem Analysts and coordinate root cause analysis.

- Register known errors.

- Inform Problem Manager.

- Assign known error to Problem Analyst.

- Validate proposed solutions to known errors.

- Validate outcome of closed changes and close known error.

- Validate that a problem is solved.

To execute this role, the Problem Coordinator has following tasks available:

> **Note:** For an overview of how these tasks fit in the Problem Management workflow, see "Problem Management workflows and user tasks" on page 18

ITIL workflow:	Tasks:
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"Problem prioritization and planning (SO4.2)" on page 36	"Evaluate a problem" on page 37 "Schedule a problem" on page 91 "Close a problem that will not be fixed" on

ITIL workflow:	Tasks:
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	• "Defer a problem" on page 77
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Problem Manager

The Problem Manager user role has the following responsibilities:

- Prioritize and plan problems registered by the Problem Coordinators.

- Communicate with stakeholders if required.

- Inform the Change Manager if required.

- Defer problems if needed.

- Decide on investigation of known errors.

- Register Request for Changes or Service Requests to solve known errors.

- Conduct problem review and document lessons learned.

- Close problem and inform stakeholders.

- Monitor the Problem and Known Error Resolution progress and perform required action.

To execute this role, the Problem Manager has following tasks available:

> **Note:** For an overview of how these tasks fit in the Problem Management workflow, see "Problem Management workflows and user tasks" on page 18

ITIL workflow:	Task:
	Problem Management views
"Problem detection, logging, and categorization (SO4.1)" on page 24	- Update a problem
"Problem prioritization and planning (SO4.2)" on page 36	- Evaluate a problem - Schedule a problem - Close a problem that will not be fixed - Defer a problem - Review deferred problems
"Problem investigation and diagnosis (SO4.3)" on page 42	- Access the knowledgebase - Associate a problem with an existing known error - Close a problem task - Document the root cause - Open a known error - Open a Problem Management task
"Known error logging and categorization (SO4.4)" on page 55	- Open a known error - Document the workaround
"Known error investigation (SO4.5)" on page 58	- Open a known error task - Assign a known error task - Close a known error task

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"Known error resolution (SO4.7)" on page 73	• Assign a known error task • Close a known error • Close a known error task • Defer a problem • Update a problem
"Problem closure and review (SO4.8)" on page 80	• Close a problem • Update a problem • Reopen a problem
"Problem and known error monitoring (SO4.9)" on page 86	• Close a known error • Close a problem • Reassign a problem for additional support • Review deferred problems • Schedule a problem • Set a reminder for a problem record • Update a problem • View records related to a problem
Associating incidents and changes with problems	• Associate a problem with an existing

ITIL workflow:	Task:
	problem
	• Create a new problem from a problem record
	• View records related to a problem

Problem System Administrator

The system Administrator is responsible for designing Problem Management workflows, phases and categories.

Problem Management workflows and user tasks

The Problem Management process includes the activities required to identify and classify problems, to diagnose the root cause of incidents, and to determine the resolution to related problems. It is responsible for ensuring that the resolution is implemented through the appropriate control processes, such as Change Management.
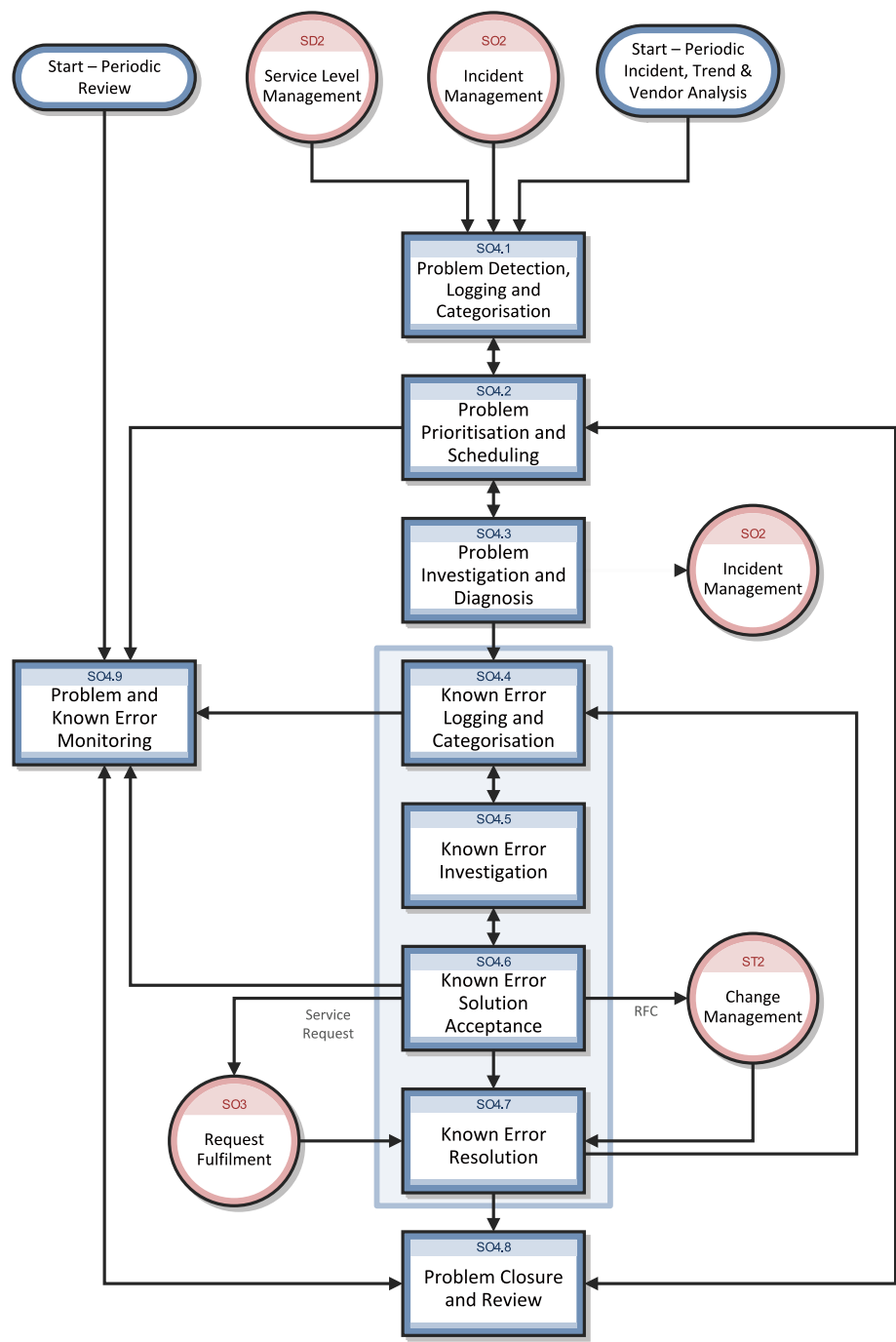
The Problem Management process consists of the following workflows and user tasks.

ITIL workflow:	Task:
	Problem Management views

ITIL workflow:	Task:
"Problem detection, logging, and categorization (SO4.1)" on page 24	• Find problem candidates • Review incidents • Create a new problem from an incident • Create a new problem not based on an incident • Associate a problem with an existing incident • Update a problem
"Problem prioritization and planning (SO4.2)" on page 36	• Evaluate a problem • Schedule a problem • Close a problem that will not be fixed • Defer a problem • Review deferred problems
"Problem investigation and diagnosis (SO4.3)" on page 42	• Access the knowledgebase • Associate a problem with an existing known error • Assign a Problem Management task • Close a problem task • Document the root cause • Investigate and diagnose a Problem Management task • Open a known error • Open a Problem Management task • Test the workaround
"Known error logging and categorization (SO4.4)" on page 55	• Open a known error • Document the workaround
"Known error investigation (SO4.5)" on page 58	• Open a known error task

ITIL workflow:	Task:
	- Assign a known error task
	- Close a known error task
	- Update a known error
	- Update a problem
	- Investigate and diagnose a known error task
	- Test the known error solution
"Known error solution acceptance (SO4.6)" on page 68	- Assign a known error record to schedule a fix
	- Defer a known error and the related problem
	- Open a service request for a known error record
	- Open a change request from a known error record
"Known error resolution (SO4.7)" on page 73	- Assign a known error task
	- Close a known error
	- Close a known error task
	- Defer a problem
	- Update a problem
"Problem closure and review (SO4.8)" on page 80	- Close a problem
	- Update a problem
	- Reopen a problem
	- Reopen a known error
"Problem and known error monitoring (SO4.9)" on page 86	- Close a known error
	- Close a problem
	- Reassign a problem for additional support

ITIL workflow:	Task:
	• Review deferred problems • Schedule a problem • Set a reminder for a problem record • Update a problem • View records related to a problem
Associating incidents and changes with problems	• Associate a problem with an existing incident • Associate a problem with an existing problem • Create a new problem from a problem record • View records related to an incident • View records related to a problem

To see more workflow diagrams and more information about this process, refer to the HP Service Manager Processes and Best Practices Guide linked to in the related topics.

Problem Management views

Part of Workflow(s):

All

Applies to User Roles:

"Problem Analyst" on page 10

"Problem Coordinator" on page 11

"Problem Manager" on page 14

The Problem Management views contained in the Favorites and Dashboards navigation pane allow you to easily and quickly access specific types of records, including known errors, problems, and problem tasks.

> **Note:** HP Service Manager provides default Problem Management views. Views that are available to

a specific role or roles are noted below.

Available views for known errors

Click **Favorites and Dashboards** > **Problem Management** > **Known Error**.

The following views are available to the Problem Analyst:

- All Open Known Errors

- Open Known Errors Assigned to Me

- Open Known Errors Assigned to My Group

The following views are available to the Problem Coordinator:

- All Open Known Errors

- Open Known Errors Assigned to My Group

The following views are available to the Problem Manager:

- All Open Known Errors

- Known Errors Not Assigned in Known error investigation Phase

- Known Errors Where Solution Time Is Not Met

Available views for problems

Click **Favorites and Dashboards** > **Problem Management** > **Problem**.

The following views are available to the Problem Analyst:

- All Open Problems

- High Priority Problems

- Open Problems Assigned to My Group

- Problem Tickets Owned by Me

The following views are available to the Problem Coordinator:

- All Open Problems

- High Priority Problems

- Open Problems Assigned to Me

- Open Problems Assigned to My Group

- Problem Tickets Owned by Me

The following views are available to the Problem Manager:

- All Open Problems

- High Priority Problems

- Open Problems Assigned to Me

- Problems in Problem Prioritization and Planning Phase

- Problems Not Assigned in Problem Investigation and Diagnosis Phase

- Problem Tickets Owned by Me

Available views for problem tasks

Click **Favorites and Dashboards** > **Problem Management** > **Problem Tasks**.

The following views are available to the Problem Analyst:

- All Open Known Error Tasks Assigned to Me

- All Open Problem Tasks Assigned to Me

Problem detection, logging, and categorization (SO4.1)

The problem detection, logging, and categorization process starts when the Problem Coordinator determines that a problem record needs to be opened to investigate an existing or potential problem. This process may be started in response to a single incident or to a series of related incidents, and it may also be the result of proactive investigation of a potential problem.
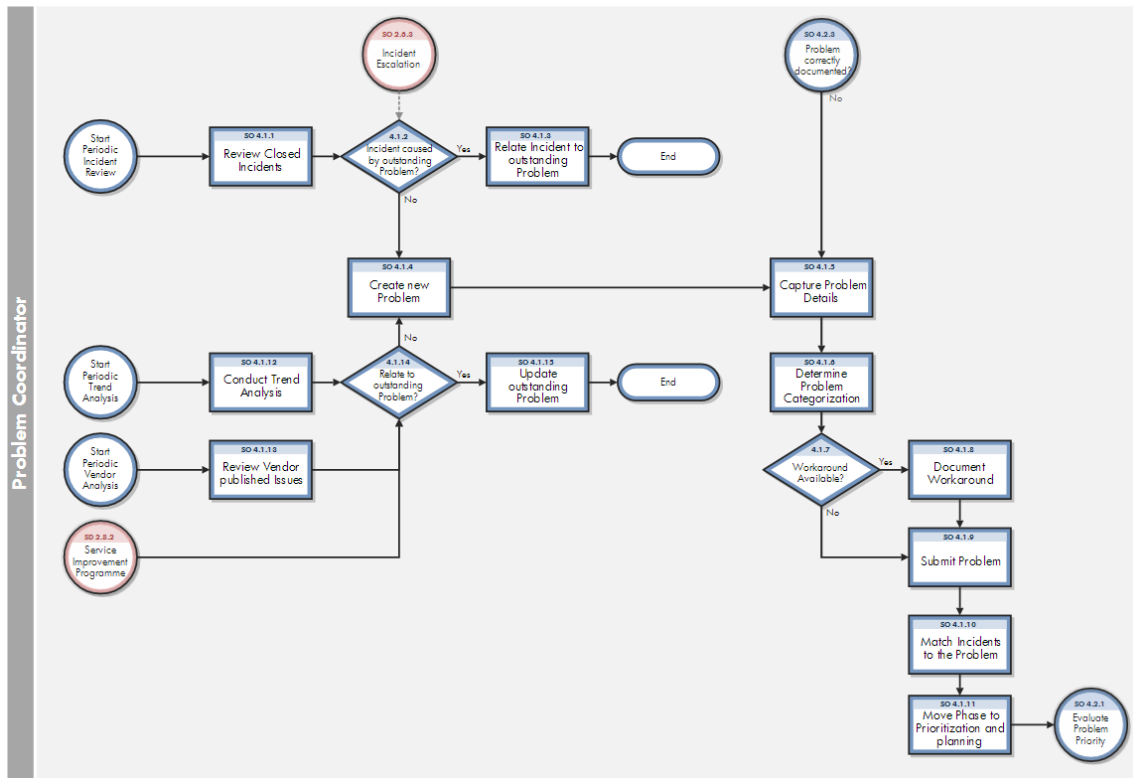
Find problem candidates

Part of Workflow(s):

"Problem detection, logging, and categorization (SO4.1)" on the previous page

Applies to User Roles:

"Problem Coordinator" on page 11

There are times when you may need to create a problem before any incidents are reported. Typically, such problems arise from periodic reviews of incident trend analysis or from vendor published issues. You can also obtain lists of specific incidents to review from your stakeholders, from external reporting systems, or by searching for incidents flagged as problem candidates. You should set up periodic reviews for all areas mentioned below, and any other areas that might be problematic.

To find problem candidates, follow these steps:

1. Review known error information published by your suppliers to identify potential problems.

2. Review events for all systems to identify potential functional problems.

3. Review performance, capacity, and availability for all systems to identify potential performance and capacity issues.

4. Review data provided by security management to identify potential security problems.

5. Search for priority 1 incidents in the database. To do this, follow these steps:
   a. Click **Problem Management** > **Problem** > **Search Problems**.

   b. In the **Look For** list, select **Incident**.

   c. In the **Priority field** list, select **1 – Critical**.

   d. Use search or advanced search to find one or more records.Service Manager displays incidents with a priority of 1.

6. Search for problem candidates. To do this, follow these steps:
   a. Click **Problem Management** > **Problem** > **Search Problems**.

   b. In the **Look For** list, select **Problem**.

   c. In the **View** list, select **Open Problem Management Candidates**.

   d. Use search or advanced search to find one or more records.Service Manager displays incidents flagged as problem candidates.

7. Search for problem candidates in the incidents queue:
   a. Click **Problem Management** > **Problem** > **Search Problems**.

   b. In the **Look For** list, select **Incident**.

   c. In the **View list**, select **All Open Incidents**.

   d. Use search or advanced search to find one or more records.

   e. Refine your search by adding the following kinds of incidents, or other candidates, as required.
      - Closed incidents

      - Candidates resolved through a workaround or temporary fix

- Candidates not linked to problems or known errors

- Suspected problems (as identified by stakeholders)

Service Manager displays incidents that meet the search criteria.

Review incidents

Part of Workflow(s):
"Problem detection, logging, and
categorization (SO4.1)" on page 24

Applies to User Roles:

"Problem Coordinator" on page 11

You should periodically review incidents (whether they have been closed or are currently open) to determine if they are the result of a new problem or if they match an existing problem. Your analysis of incident data may reveal similar or reoccurring incidents, which may indicate a problem. By default, Service Manager requires that all closed incidents not resolved through a permanent fix must be related to a problem. You can match such incidents to existing problems or create a new problem record for them.

To review incidents, follow these steps:

1. Open the incident that you want to review.

2. Review the details of the incident.

3. Determine whether the incident is already related to an existing problem or known error.

4. Search for problems and known errors similar to this incident (such as same classification, same CI, or same product or model).

5. If the incident is similar to an existing problem, associate the incident to that problem. You can relate a configuration item (CI) group to the problem or create a new CI group to define the set of CIs that have this problem.

> **Note:** The Incident Management staff may have already linked some incidents to existing problems.

Service Manager automatically updates the incident count of a problem record when you associate an incident to it.

6. If you cannot find a matching problem or known error, create a new problem record.

Create a new problem from an incident

Applies to User Roles:

"Problem Coordinator" on page 11

When you create a problem record from an incident, Service Manager automatically associates the incident record to the problem record. Every time someone associates another incident to this problem, Service Manager updates the incident count for the problem. The more related incidents a problem has, the greater the impact the problem has on an organization and the higher priority it should have.

> **Note:** By default, problem record identification numbers have a prefix of PM.

To create a new problem record based on an existing incident record, follow these steps:

1. Click **Problem Management** > **Problem** > **Search Problems**.

2. Use search or advanced search to find one or more records. Specify search criteria to find the incidents that you want to make new problems for.

3. Select an incident from the record list.

4. Click **More** or the **More Actions** icon and select **Related** > **Problems** > **Open**. Service Manager creates a new problem record and automatically fills in the assignment, affected configuration item, and categorization information from the incident record.

5. Fill out the remainder of the problem record as needed.

6. Click **Save**.

Create a new problem not based on an incident

Part of Workflow(s):
"Problem detection, logging, and
categorization (SO4.1)" on page 24

Applies to User Roles:

"Problem Coordinator" on page 11

There are times when you may need to create a problem before any incidents have been reported. Typically, such problems arise from periodic reviews of incident trend analysis or from vendor published issues. You can address these problems as part of an organization's preventive or scheduled maintenance. Should any incidents arise from these problems, you can associate them with the problem after creating it.

> **Note:** By default, problem record identification numbers have a prefix of PM.

To create a new problem record not based on an existing incident record, follow these steps:

1. Click **Problem Management** > **Problem** > **Search Problems**.

2. In the **Title** field, type a title that accurately describes the problem.

3. In the **Description** field, type the following details:
   - The problem

   - The symptoms, including any error messages

   - The impact from a business perspective

   - The frequency of reoccurrence

   - The conditions under which any service disruption occurs

4. Fill in the following required fields, and any other required or relevant fields.

   > **Note:** Problems created from Incidents or other records may contain some prepopulated fields.

   - Select the **Status** and **Assignment Group**.

   - Select the **Service** and **Primary CI**.

   - Select the **Area** and **Subarea**.

   - Select the **Impact** and **Urgency**.

○

> **Note:** Service Manager selects the default priority based on the impact and urgency values.

5. Click **Save**.

Associate a problem with an existing incident

Part of Workflow(s):

"Problem detection, logging, and
categorization (SO4.1)" on page 24

Applies to User Roles:

"Problem Coordinator" on page 11

Any time that you discover that an incident was caused by an outstanding problem, you should link the incident to the problem record. It is important to link incidents to problems so that you can determine the impact of the problem in your organization. The more related incidents a problem has, the greater the impact of the problem. Monitoring the number of related incidents will also help you identify problems that require additional work to resolve.

To associate a problem with an existing incident, follow these steps:

1. Click **Problem Management** > **Search Problems**.

2. Use search or advanced search to find one or more records.

3. Select an existing problem from the record list.

4. Click **More** or the **More Actions** icon and select **Related** > **Incidents** > **Associate**.

5. Specify the incident number or click **Search** to view the incident search form.

6. Add optional filtering criteria, and then click **Search** again to display an incident record list.

7. Double-click the incident record you want to associate with the problem record. The incident record ID is displayed.
   ○ Click **OK** to link the incident record to the problem record.

   ○ Click **Cancel** to stop the search and exit.

- ○ Click **Search** to view the incident record search form again. Click **Search** again to redisplay the incident record list.

8. Click **OK**. Problem Management populates the Related Records section with information about the related incident.

Update a problem

Part of Workflow(s):

"Problem detection, logging, and categorization (SO4.1)" on page 24

"Known error investigation (SO4.5)" on page 58

"Known error resolution (SO4.7)" on page 73

"Problem closure and review (SO4.8)" on page 80

"Problem and known error monitoring (SO4.9)" on page 86

Applies to User Roles:

"Problem Analyst" on page 10

"Problem Coordinator" on page 11

"Problem Manager" on page 14

You may need to update problem records many times. Typically, you add relevant information to the Activities section to describe the work you performed to resolve the problem. The Activities section provides you with information about the work other operators have performed to resolve the problem. You can use the Activity section to view the history of other activities, such as when the record opened or when the status of the record changed.

You should record all the investigation activities in the known error to track the effort associated with the problem, task, or known error. After the current activities for a phase are complete, you advance the known error record to the next phase.

To update a problem, follow these steps:

1. Click **Problem Management** > **Problem Control** > **Search Problems**.

2. Use search or advanced search to find one or more records.

3. Select an existing problem from the record list.

4. To document test results provided by the Problem Analyst, follow these steps:
   a. In the Problem Details section, enter a detailed update in **Suggested Workaround** field. Include the necessary actions to implement the solution and any possible risks.

   b. If the solution needs to be implemented through the Change Management process, open a change request.

   c. Select the Assessment section and enter the following information to document the estimated costs and resources:
      - The estimated number of days to apply the fix

      - The estimated costs

      - Click the **Fill** icon to select any affected CIs

5. In the Activities section, select the applicable update type in the **New Update Type** field list.

6. In the **New Update** field, type the description of the update.

7. Consider whether the priority of resolving this problem has changed. If you need to update the priority of this record, select the **Problem Details** section, and then follow these steps:
   ○ Update the **Impact**, if necessary.

   ○ Update the **Urgency**, if necessary.

8. Consider whether the problem needs further investigation. If so, update the **Status** field to **Deferred** and schedule it for investigation at a later date.

9. Click **Save**.

10. If you are ready to advance this problem record to the next phase, click **Next Phase** to proceed to the next phase.

    For example, you may want to advance to the next phase after you finish the categorization phase.

> **Note:** Before you advance to the next phase, make sure you have added the following
> information to the problem record:

- Root Cause Description

- Root Cause Target Date

- Solution Target Date

After you verify this information, click **Next Phase** to advance the problem record to the Problem
Prioritization and Planning phase.

> **Note:** When all known errors are closed, Service Manager automatically updates the problem
> record from the Problem Resolution phase to the Problem Closure and Review phase.

11. Click **Save & Exit**.

> **Note:**
>
> - If you update the workaround before the Problem Analyst is finished diagnosing and testing,
>   make sure you notify the Problem Analyst.
>
> - If any outstanding incidents matched the problem, notify the Incident Analyst.

Add an attachment to a problem record

To add an attachment to a record, follow the steps below:

1. Open the record to which you want to add an attachment. To do this, select a record from the
   queue or search for a specific record.

   > **Note:** You can also add an attachment when you create a new record.

2. Scroll down to and click the **Attachments** tab.

3. Click **Add files**, and then browse to the file or files that you want to attach to the record.

After you confirm your selection, a progress bar in the **File Name** column displays the progress of the file upload process.

> **Note:** The multiple file upload and progress bar functionality is only available in browsers that support the HTML5 File API (for example, Mozilla Firefox, Google Chrome, or Windows Internet Explorer 10).

The file is now uploaded. However, the file is not attached to the record until you click **Save**. To remove a file that is uploaded in error, click the **X** icon in the **Remove** column before you click **Save**.

> **Note:**
>
> ○ The size limit for individual attachments and the space that is available for storing attachments are displayed in the upper-right corner of the **Attachments** section.
>
> ○ If you try to attach a file that exceeds the size limit for individual attachments or the total available space, you receive an error message, and the attachment is not uploaded.
>
> ○ If you try to attach a type of file that is not permitted (for example, an .exe file), you receive a message that prompts you to remove the attachment. If you do not remove the attachment, it is removed automatically when you click **Save**.
>
> ○ There is no limit to the number of files that you can attach to a record, provided that they do not exceed the size limit. However, we recommend that you do not attach more than 20 files to a single record.
>
> ○ If you refresh the browser or click certain comfill buttons that refresh the browser before the file upload process is complete, the file is not uploaded.
>
> ○ Whether you can attach a file with a duplicated name against the attachment list depends on the setting of the **preventDuplicatedAttachmentName** parameter.

4. Click **Save**.

Open an attachment in a problem record

To open a file that is attached to a record, follow these steps:

1. Open the record to which the file that you want to open is attached. To do this, select a record from the queue or search for a specific record.

2. Scroll down to and click the **Attachments** tab.

3. To open a single file, click the file name or the download icon in the **Download** column.

   To open multiple files, select the files that you want to open by using the check-boxes next to the file names, and then click **Download**.

   > **Note:** When you download multiple attachments concurrently, HP Service Manager packages the files in a compressed (zipped) folder. Some third-party unzipping tools may not correctly handle file names that contain non-Roman characters. In this situation, the name of the unzipped file may change unexpectedly. We recommend that you use WinRAR to unzip the compressed folder.

4. Click **Save**.

View the details of an attachment in a problem record

To view the details of the files that are attached to a record, scroll down to and expand the **Attachments** section of the appropriate record.

> **Note:** The number of attached files is displayed on the **Attachments** tab heading. This enables you to identify whether a record has attachments quickly without having to expand the **Attachments** section.
>
> However, the number of attached files is not displayed if a custom dynamic view dependency is configured for the section or tab title. This is because the custom dynamic view dependency may include file count information.

If a file is attached to the record, the following information is displayed in the table in "Attachments" section:

- The name of the attached file

- The size of the attached file (in KB)

- The login name of the person who attached the file

- The date when the file was attached to the record

Attached files are displayed in the order in which they were uploaded.

Delete an attachment from a problem record

To delete an attachment from a record, follow these steps:

1. Open the record from which you want to delete an attachment. To do this, select a record from the queue or search for a specific record.

2. Scroll down to and click the **Attachments** tab.

3. To delete a single file, click the **X** icon in the **Remove** column.

   To delete multiple files, select the files that you want to delete by using the check-boxes next to the file names, and then click **Remove**.

4. In the dialog box that appears, confirm the deletion.

5. Click **Save**.

Problem prioritization and planning (SO4.2)

The problem prioritization and planning process gives you the opportunity to establish the priority of the problems and to plan resolution activities, such as setting deadlines for root cause analysis, solution investigation, and resolution target dates.
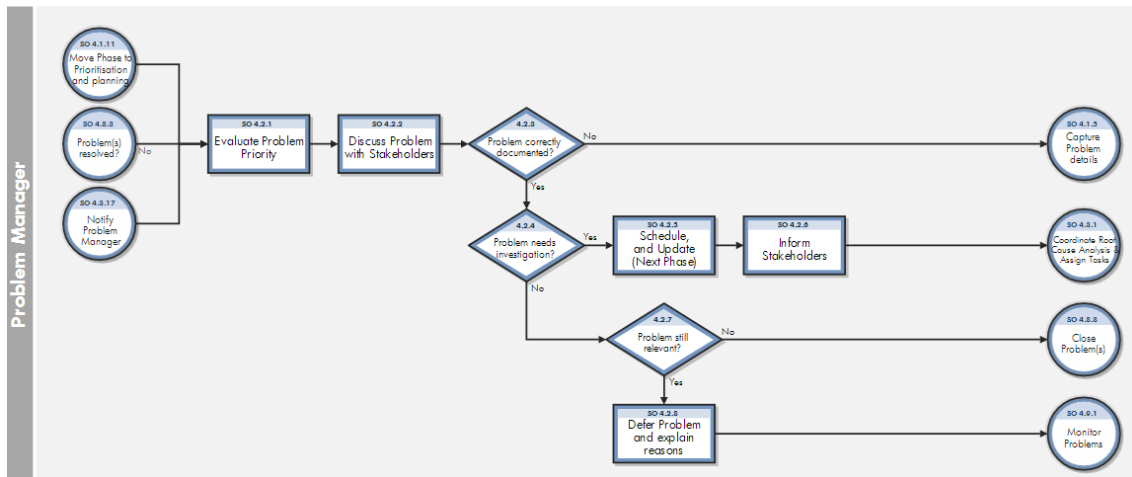
Evaluate a problem

Part of Workflow(s):

"Problem prioritization and planning (SO4.2)
" on the previous page

Applies to User Roles:

"Problem Coordinator" on page 11

"Problem Manager" on page 14

The goal of evaluating a problem is to determine what priority resolving the problem has in your organization. A problem's priority is a combination of the problem's impact, urgency, severity, frequency, and risk. For example, the frequency of reoccurring incidents may influence the urgency to resolve the problem. Furthermore, you may need to perform a risk assessment to determine the problem's impact on the business, such as whether the problem affects service availability or customer satisfaction. Due to resource constraints, it is important to focus on those problems that have the highest impact on the business.

To evaluate a problem:

1. Click **Problem Management** > **Problem Control** > **Search Problems**.

2. Use search or advanced search to find one or more records. You can select the **Phase** Problem Prioritization and Planning to define your search. Problem Management returns a list of problems in the Problem Prioritization and Planning phase.

3. Discuss the problem with stakeholders (for example, during a meeting) and answer the following questions:
   - What is the priority of resolving this problem?
     - Update the **Impact**, if necessary.
     - Update the **Urgency**, if necessary.
   - Is this problem correctly documented? If the problem is not correctly documented, update the problem documentation.
   - Does the problem need further investigation?
     - If the problem is still relevant, update the Status field to **Deferred** and schedule it for investigation at a later date.
     - If the problem is no longer relevant, close the problem record.

4. In the Activities section, select an update type in the **New Update Type** field.

5. In the **New Update** field, type the description of your update.

6. Click **Save & Exit**.

7. If you have determined that you can close the problem record, do the following:
   - Make sure all known errors are closed. For more information, see the related topics.
   - Click **Next** until you advance the problem record to the Problem Closure and Review phase.
   - Click **Fill** in the **Closure Code** field to select an applicable code.
   - Click **Close Problem**.

     The status changes to Closed.

Schedule a problem

Part of Workflow(s):

Applies to User Roles:

When you schedule a problem, set the target dates based on the priority and impact on affected services and whether there is a workaround or fix available. Assign or reassign the problem to a group with the skills necessary to find a resolution to the problem.

To schedule a problem:

1. Click **Problem Management** > **Problem Control** > **Search problems**.

2. Use search or advanced search to find one or more records.

3. Select a record from the list.

4. Select the **Assignment Group**.

5. Set the **Root Cause Identified Date**.

   Note: This field is only available for problems assigned to Open status.

6. Set the **Problem Resolution Date**.

   Note: This field is only available for problems assigned to Open status.

7. In the Activities section, click the **New Update Type** field list and select the applicable update type.

8. In the **New Update** field, type notes to include the current activity update.

9. Click **Save**.

10. To advance to the next phase, click **Next Phase**. For example, you might want to advance from the Problem Prioritization and Planning phase to the Problem Investigation and Diagnosis phase.

11. Click **Save & Exit**.

12. Notify the Problem Coordinator and the stakeholders about the plans and resources assigned to this problem.

Close a problem that will not be fixed

Part of Workflow(s):

Applies to User Roles:

If, after investigation, you determine that an open problem is not considered to be a problem by the stakeholders, or it is a duplicate or an invalid problem, you can close it without fixing it.

To close a problem that will not be fixed:

1. Click **Problem Management** > **Problem Control** > **Search Problems**.

2. Use search or advanced search to find one or more records.

3. Double-click the problem record that you want to close.

4. In the Activities section, select the applicable type from the **New Update Type** field.

5. In the **New Update** field, enter the reason this problem will not be fixed.

6. Click **Next Phase** several times to change the phase to Problem Closure and Review.

7. Fill in any required files.

8. In the **Closure Code** field, click **Fill** to select an applicable code.

9. Click **Close Problem**.

10. Click **Save & Exit**.

Defer a problem

Part of Workflow(s):

Applies to User Roles:

If you want to defer a problem, you must specify the reason for deferral. For example, if after investigation you decide to delay scheduling a problem for resolution, you can defer it. Or, if the Problem Analyst was unable to successfully test and validate a fix and you want to continue investigating a solution, you can defer the problem. You can later finalize how to handle the problem when you review deferred problems.

To defer a problem:

1. Click **Problem Management** > **Problem Control** > **Search Problems**.

2. Use search or advanced search to find one or more records.

3. Double-click the problem record that you want to defer.

4. In the Status field list, select **Deferred**.

5. In the Activities section, select the applicable update type from the **New Update Type** field list.

6. In the **New Update** field, type the reason for the deferral.

7. Click **Save & Exit**.

Note: Make sure you update the status of the problem during your regularly-scheduled review of deferred problems.

Review deferred problems

Part of Workflow(s):

"Problem prioritization and planning (SO4.2)
" on page 36

"Problem and known error monitoring
(SO4.9)" on page 86

Applies to User Roles:

"Problem Manager" on page 14

You should periodically review problems that are deferred to determine whether additional actions are required. As you evaluate these problems, you can determine if they should be deferred again, reassigned for further investigation, or closed if the problem is no longer relevant.

To review deferred problems:

1. Click **Problem Management** > **Problem Control** > **Search Problems**.

2. Use search or advanced search to find one or more records. You can refine your search by selecting **Deferred** in the Status field.

3. Double-click the problem record you want to review.

4. If necessary, discuss the problem with stakeholders to determine the current answers to the following questions:
   - What is the priority of resolving this problem?
     - Update the **Impact**, if necessary.

     - Update the **Urgency**, if necessary.

   - Is this problem correctly documented? If the problem is not correctly documented, update the problem documentation.

   - Does the problem need further investigation?
     - If the problem is still relevant, the problem remains at **Deferred** status and you should schedule it for investigation at a later date.

     - If the problem is no longer relevant, close the problem record.

5. In the Activities section, click the **New Update Type** field list and select the update type.

6. In the **New Update** field, type notes to update information about the current activity.

7. Click **Save & Exit**.

8. If you determine that you can close the problem record, do the following:
   - Make sure all known errors are closed.

   - Click **Next Phase** until you advance the problem record to the Problem Closure and Review phase.

   - Click **Fill** in the **Closure Code** field to select an applicable code.

   - Click **Close Problem**. The status changes to Closed.

Problem investigation and diagnosis (SO4.3)

The problem investigation and diagnosis procedure is aimed at identifying the root cause of the problem. Where appropriate, Problem Management should develop and maintain workarounds to

enable Incident Management to help service restoration.

Access the knowledgebase

Part of Workflow(s):

"Problem investigation and diagnosis (SO4.3)" on the previous page

Applies to User Roles:

"Problem Analyst" on page 10

"Problem Coordinator" on page 11

"Problem Manager" on page 14

The central knowledgebase is the default database for any knowledge search in HP Service Manager. You can search the knowledgebase by using the standard Service Manager knowledge application, or you can choose other knowledgebases to search.

To access the Service Manager knowledgebase:

1. Click **Problem Management** > **Problem Control** > **Search Knowledge Base**.

2. Use search or advanced search to find one or more records. For example, type a word or phrase in the **Search for** field.

   Note: You can search for one of the following libraries.
   - Knowledge Library

   - Known Errors

   - Problems

   - Incidents

   - Interactions

A list of solution records opens.

Assign a Problem Management task

Part of Workflow(s):

"Problem investigation and diagnosis
(SO4.3)" on page 42

Applies to User Roles:

"Problem Coordinator" on page 11

The problem investigation and diagnosis process in Problem Management is aimed at identifying the root cause of a problem. After the Problem Coordinator determines the required skills and resources needed to investigate a problem, the Problem Coordinator creates a task and assigns it to a Problem Analyst that meets the requirements. If there are multiple configuration items (CIs) involved in the problem, the Problem Coordinator should create a separate task for each CI. This allows the Problem Coordinator to assign different specialists or external resources to investigate the problem.

To assign a Problem Management task:

1. Click **Problem Management** > **Problem Control** > **Search Problems**.

2. Use search or advanced search to find one or more records. The search criteria should include **All Open Problems** in the **View** field.

3. Select the target record.

   Note: You can only open a task for problem records in the Problem Investigation and Diagnosis phase.

4. Click **More** or the More Actions icon, and then choose **Create Task**. The Create Problem Management Tasks wizard opens.

5. Select the **Primary CI**, or click **Fill** to choose from the affected configuration items (CIs).

6. Click **Finish**. Problem Management populates the task form with available information from the problem record.

7. Add the following information to the task:
   ○ **Due Date**

   ○ **Assignment Group**

   ○ **Assignee**: Select a Problem Analyst from the record list.

   ○ **Description**

8. Click **Save & Exit**. Service Manager updates task records with related record information as updates occur.

Associate a problem with an existing known error

Part of Workflow(s):

Applies to User Roles:

A known error is an issue for which a root cause (the underlying cause of a problem, or one or more incidents) has been diagnosed and a solution or workaround has been determined. If you determine that a problem was caused by an existing known error, you should link the known error to the current problem record. It is important to link the problem with the existing known error so you can determine the impact of the problem in your organization.

To associate a problem with an existing known error:
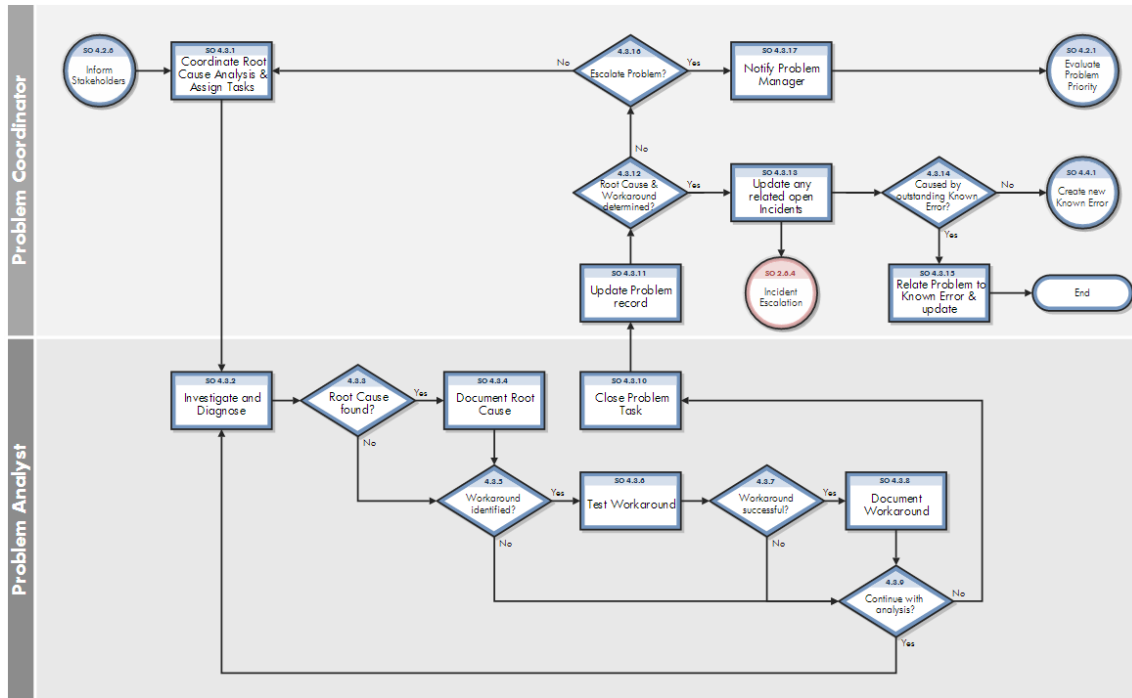
1. Click **Problem Management** > **Problem Control** > **Search problems**.

2. Use search or advanced search to find one or more records.

3. Select a problem from the record list.

4. Click **More** or the More Actions icon and select **Related** > **Known Errors** > **Associate**.

5. Specify the known error number or click **Search** to view the known error search form.

6. Add optional filtering criteria, and then click **Search** again to display a known error record list.

7. Double-click the known error record you want to associate with the problem record. The known error record ID is displayed.
   - Click **OK** to link the known error record to the problem record.

   - Click **Cancel** to stop the search and exit.

   - Click **Search** to view the known error record search form again. Click **Search** again to redisplay the known error record list.

8. Click **OK**. Problem Management populates the Related Records section with information about the related known error.

Close a problem task

Part of Workflow(s):

"Problem investigation and diagnosis
(SO4.3)" on page 42

Applies to User Roles:

"Problem Analyst" on page 10

"Problem Coordinator" on page 11

"Problem Manager" on page 14

To close a problem task:

1. Click **Problem Management** > **Problem Tasks** > **Search Problem Management Tasks**.

2. Use search or advanced search to find one or more records.

3. Double-click the problem task that you want to close.

4. In the Activities section, select the applicable update type from the **New Update Type** list.

5. In the **New Update**field, add any activity notes.

6. Click **Close Task**.

Document the root cause

Part of Workflow(s):

"Problem investigation and diagnosis
(SO4.3)" on page 42

Applies to User Roles:

"Problem Coordinator" on page 11

"Problem Manager" on page 14

When a root cause has been identified for a problem record, you can document the root cause in the problem record and add other necessary and helpful information.

To document the root cause of a problem:

1. Click **Problem Management** > **Problem Control** > **Search Problems**.

2. Use search or advanced search to find one or more records.

3. Select the record to be updated.

4. In the **Root Cause Description** field, type the root cause information.

5. In the **Root Cause Identified Date** field, select a target identified date.

6. In the **Solution Identified Date** field, select a target identified date.

7. In the **Problem Resolution Date** field, select a target identified date.

8. In the Activities section:

   ○ Select an applicable update code in the **New Update Type** field.

   ○ Type notes in the **New Update** field.

9. Click **Save & Exit**.

Document the workaround

Part of Workflow(s):

"Problem investigation and diagnosis
(SO4.3)" on page 42

"Known error logging and categorization
(SO4.4)" on page 55

Applies to User Roles:

"Problem Analyst" on page 10

"Problem Coordinator" on page 11

"Problem Manager" on page 14

Part of Workflow(s):

"Problem investigation and diagnosis (SO4.3)" on page 42
"Known error logging and categorization (SO4.4)" on page 55

Applies to User Roles:

"Problem Analyst" on page 10
"Problem Coordinator" on page 11
"Problem Manager" on page 14

A workaround is a temporary solution to a problem. It might be a strategy that diverts your work flow around the affected configuration item or changes the service temporarily until the problem is resolved. For example, the workaround for a planned maintenance outage on printer A is to create a temporary connection to printer B. The additional number of users for printer B will increase the workload beyond normal levels, but the users for printer A can continue working until it returns to full service.

When the workaround is documented by the assigned Problem Analyst or Problem Coordinator, it also becomes the workaround in the known error record. Once the workaround is validated, you should inform the affected stakeholders.

When a workaround description is entered and saved in a problem record, Problem Management automatically records the workaround information in the related incident, if the incident is still open.

To document a workaround:

1. Click **Problem Management** > **Problem Control** > **Search Problems**.

2. Use search or advanced search to find one or more records.

3. Select the record to update.

4. In the **Suggested Workaround** field, type the workaround.

5. In the Activities section, select the applicable update type in the **New Update Type** field.

6. In the Activities section, type update notes in the **New Update** field.

7. Click **Save & Exit**.

Investigate and diagnose a Problem Management task

Part of Workflow(s):

Applies to User Roles:

A Problem Coordinator will assign a problem task to the Problem Analyst who has the required skills and resources to investigate the problem. The Problem Analyst is then expected to take the information provided in the task to investigate and duplicate the problem, and then find a root cause and determine a workaround for it.

To work with a current problem task:

1. Click **Problem Management** > **Problem Tasks** > **Problem Task Queue** or view your To Do list.

2. Select the target record. You can see the description of the problem, due date, category, urgency, and other details provided in the task.

3. In the **Status** field, update the status to **Work In Progress**.

4. You can begin your investigation, trying to reproduce the problem so that it is clear to you what went wrong. You can also search incident records to see if any might match the problem. For information on associating a problem record with an incident record(s), see the related topics.

5. When you cannot reproduce the problem, document your activities in the Activities section.
   a. In the **New Update Type** field list, select the applicable update code.

   b. In the **New Update** field, add notes to document what you did while trying to investigate, diagnose, and duplicate the problem. Include your time spent during the investigation.

   c. Notify the Problem Coordinator so the coordinator can determine what other resources and skills are required to diagnose the problem.

   d. Click **Close Task**.

6. When you find the root cause and determine a workaround, document your workaround in the Activities section.
   a. In the **New Update Type** field list, select the applicable update code.

   b. In the **New Update** field, add notes to document what you did to duplicate the problem and type a description of the temporary workaround to fix the problem. Include your time spent during the investigation.

7. Click **Save & Exit**.

8. You will need to test your workaround, and then document the results in your problem task.

Open a known error

Part of Workflow(s):

Applies to User Roles:

"Problem Coordinator" on page 11

"Problem Manager" on page 14

A known error is an issue for which a root cause (the underlying cause of a problem, or one or more incidents) has been diagnosed and a solution or workaround has been determined. When the Problem Coordinator validates a workaround that has been successfully tested by the Problem Analyst, the Problem Coordinator determines whether the root cause is related to an outstanding known error. You can open a known error only for problems in the Problem and Investigation phase and if there is a primary configuration item specified in the problem record.

If there is an existing known error, the Problem Coordinator relates this problem to the outstanding known error.

If there is not an existing known error, the Problem Coordinator opens a new known error record, and then moves the phase of the problem record to the Problem Resolution phase.

Note: Known error records can be opened from a problem record and by the assigned Problem Coordinator only. To ensure that the known error record includes all relevant information, Problem Management automatically populates the new record with the relevant information from the problem record.

To open a known error record:

1. Click **Problem Management** > **Problem Control** > **Search Problems**.

2. Use search or advanced search to find one or more records.

   Note: Known error records can be only be opened by the assigned Problem Coordinator, so if you intend to open a known error you should include the assigned Problem Coordinator as part of your search criteria.

3. Select a record.

4. Click **More** or the More Actions icon and select **Open Known Error**.

5. Complete any required fields on the form.

6. Click **Save & Exit**. You are returned to the problem record form.

7. Click **Next Phase** to move the problem record to the Problem Resolution phase. This phase includes the following known error processes to resolve the problem.

- Known error logging and categorization process

- Known error investigation process

- Known error solution acceptance process

- Known error resolution process

8. Click **Save & Exit**.

Open a Problem Management task

Part of Workflow(s):

Applies to User Roles:

When a problem is prioritized and the investigation and resolution activities are planned (such as deadlines for the root cause analysis, solution investigation, and resolution target dates), you can create the tasks for investigating, diagnosing, and testing a workaround.

To open (or create) a Problem Management task:

1. Click **Problem Management** > **Problem Control** > **Search Problems**.

2. Use search or advanced search to find one or more records.

3. Select the target record.

   Note: You cannot open a task unless the current phase for the record is Problem Investigation and Diagnosis.

4. Click **More** or the More Actions icon and select **Create Task**. The Create Problem Management Tasks wizard opens.

5. Select the **Primary Configuration Item**, or click **Fill** to choose from the affected configuration items (CIs).

6. Click **Finish**. Problem Management populates the task form with available information from the problem record.

7. Add the following information to the task:
   - **Assignment Group**

   - **Assignee**: Select a Problem Analyst from the record list of operators.

   - **Description**

8. Click **Save**. A message displays, stating that the Problem Management task with the assigned number has been opened.

9. Click **Save & Exit**. Service Manager updates task records with related record information as updates occur.

Test the workaround

Part of Workflow(s):

"Problem investigation and diagnosis
(SO4.3)" on page 42

Applies to User Roles:

"Problem Analyst" on page 10

One of the tasks of the Problem Analyst is to review and test the workaround identified and documented in the problem task. These tests help to validate the suitability for resolving related incidents. When the test is successful, the Problem Coordinator documents the workaround in the problem record and creates a known error record.

To update tested workarounds:

1. Click **Problem Management** > **Problem Tasks** > **Problem Task Queue** or view your To Do list.

2. View and identify any problem tasks whose workaround can be tested.

3. Test the workaround described in the Activities section, using a test environment that mimics the production environment.

4. When the workaround fails:

Document your activities in the Activities section.

- ○ Select the applicable update code from the **New Update Type** field list.

- ○ Add notes to the **New Update** field with the results of your testing. If applicable, document the reasons a root cause is not found. Include your time spent during the investigation.
Note: Notify the Problem Coordinator of the test results who then escalates the problem to the Problem Manager. The Problem Manager determines other resources and skills required to diagnose the problem.

5. When the workaround is successful and has been validated:

Document your findings in the Activities section.

- ○ Select the applicable update type from **New Update Type** field list.

- ○ In the **New Update** field, type a description of the test results.

  Note: Notify the Problem Coordinator of the test results. The Problem Coordinator validates the test results and makes additional determinations, such as whether the root cause is related to an outstanding known error, and then creates a new known error.

6. Click **Close Task**.

Problem resolution

When the Problem Management investigation and diagnosis phase has identified the root cause of an incident, the problem resolution phase starts. The problem resolution phase includes known error activities, from creating to finding a solution for a known error.

The known error processes are as follows:

- "Known error logging and categorization (SO4.4)" on the next page

- "Known error investigation (SO4.5)" on page 58

- "Known error solution acceptance (SO4.6)" on page 68

- "Known error resolution (SO4.7)" on page 73

To read about the details of these processes, see the *HP Service Manager Processes and Best Practices Guide* linked to in the related topics.

Known error logging and categorization (SO4.4)

The Known error logging and categorization process includes the creation of known error records and the elaboration of the description of the underlying cause and possible workaround (if identified).
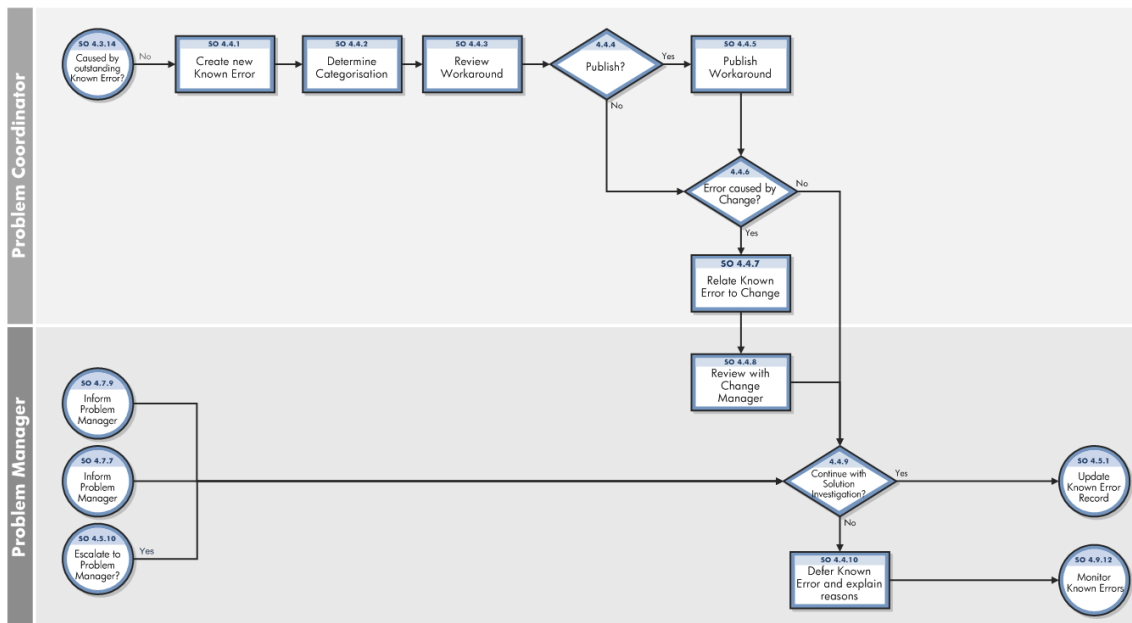
Open a known error

Part of Workflow(s):

"Problem investigation and diagnosis (SO4.3)" on page 42

"Known error logging and categorization (SO4.4)" above

Applies to User Roles:

"Problem Coordinator" on page 11

"Problem Manager" on page 14

A known error is an issue for which a root cause (the underlying cause of a problem, or one or more incidents) has been diagnosed and a solution or workaround has been determined. When the Problem Coordinator validates a workaround that has been successfully tested by the Problem Analyst, the Problem Coordinator determines whether the root cause is related to an outstanding known error. You

can open a known error only for problems in the Problem and Investigation phase and if there is a primary configuration item specified in the problem record.

If there is an existing known error, the Problem Coordinator relates this problem to the outstanding known error.

If there is not an existing known error, the Problem Coordinator opens a new known error record, and then moves the phase of the problem record to the Problem Resolution phase.

Note: Known error records can be opened from a problem record and by the assigned Problem Coordinator only. To ensure that the known error record includes all relevant information, Problem Management automatically populates the new record with the relevant information from the problem record.

To open a known error record:

1. Click **Problem Management** > **Problem Control** > **Search Problems**.

2. Use search or advanced search to find one or more records.

   Note: Known error records can be only be opened by the assigned Problem Coordinator, so if you intend to open a known error you should include the assigned Problem Coordinator as part of your search criteria.

3. Select a record.

4. Click **More** or the More Actions icon and select **Open Known Error**.

5. Complete any required fields on the form.

6. Click **Save & Exit**. You are returned to the problem record form.

7. Click **Next Phase** to move the problem record to the Problem Resolution phase. This phase includes the following known error processes to resolve the problem.
   - Known error logging and categorization process

   - Known error investigation process

   - Known error solution acceptance process

   - Known error resolution process

8. Click **Save & Exit**.

Document the workaround

Part of Workflow(s):

"Problem investigation and diagnosis
(SO4.3)" on page 42

"Known error logging and categorization
(SO4.4)" on page 55

Applies to User Roles:

"Problem Analyst" on page 10

"Problem Coordinator" on page 11

"Problem Manager" on page 14

Part of Workflow(s):

"Problem investigation and diagnosis (SO4.3)" on page 42
"Known error logging and categorization (SO4.4)" on page 55

Applies to User Roles:

"Problem Analyst" on page 10
"Problem Coordinator" on page 11
"Problem Manager" on page 14

A workaround is a temporary solution to a problem. It might be a strategy that diverts your work flow around the affected configuration item or changes the service temporarily until the problem is resolved. For example, the workaround for a planned maintenance outage on printer A is to create a temporary connection to printer B. The additional number of users for printer B will increase the workload beyond normal levels, but the users for printer A can continue working until it returns to full service.

When the workaround is documented by the assigned Problem Analyst or Problem Coordinator, it also becomes the workaround in the known error record. Once the workaround is validated, you should inform the affected stakeholders.

When a workaround description is entered and saved in a problem record, Problem Management automatically records the workaround information in the related incident, if the incident is still open.

To document a workaround:

1. Click **Problem Management** > **Problem Control** > **Search Problems**.

2. Use search or advanced search to find one or more records.

3. Select the record to update.

4. In the **Suggested Workaround** field, type the workaround.

5. In the Activities section, select the applicable update type in the **New Update Type** field.

6. In the Activities section, type update notes in the **New Update** field.

7. Click **Save & Exit**.

Known error investigation (SO4.5)

The Known error investigation process is aimed at defining a temporary fix or permanent solution for the known error. Different solution alternatives can be evaluated until a definitive solution can be proposed to the Problem Manager.

Open a known error task

Part of Workflow(s):

Applies to User Roles:

When a problem is prioritized and the investigation and resolution activities are planned (such as deadlines for the root cause analysis, solution investigation, and resolution target dates), you can create the tasks for investigating, diagnosing, and testing a workaround.

To open (or create) a known error task:

1. Click **Problem Management** > **Error Control** > **Search Known Errors**.

2. Use search or advanced search to find one or more records. To search for known error records in the investigation phase, select **Known error investigation** in the **Phase** field.

3. Select the target record.

   Note: You cannot open a task unless the current phase for the known error record is Known error investigation.

4. Click **More** or the More Actions icon and select **Create Task**. The New Known Error Task form opens.

5. The **Primary CI** field is prepopulated with information from the known error record. If you want to update this field, clear the field, and then click **Fill** to choose from the affected configuration items (CIs).

6. Add the following information to the task:
   ○ **Due Date**

   ○ **Assignment Group**

   ○ **Assignee**: Select a Problem Coordinator for the assignment group selected.

Note: Most fields have been prepopulated with information from the known error record.

7. Click **Save & Exit**. Service Manager updates task records with related record information as updates occur.

Assign a known error task

Part of Workflow(s):

Applies to User Roles:

You assign known error tasks to investigate how to fix known errors and apply fixes to the known errors. In the known error investigation process, the Problem Coordinator assigns a known error task to the Problem Analyst. The Problem Analyst determines a workaround or temporary solution for the error and documents it in the known error task.

When you have multiple configuration items (CIs) to fix, the Problem Coordinator opens a known error task for each affected CI.

Note: The Problem Coordinator creates these tasks in the known error investigation phase. When ready, the Problem Coordinator assigns the task to the applicable assignment group(s) and Problem Analyst(s) as the known error process moves forward.

To assign a known error task:

1. Click **Problem Management** > **Known Error Tasks** > **Search Known Error Tasks**.

2. Use search or advanced search to find one or more records.

   Note: The Problem Coordinator has opened all necessary tasks in the Known error investigation phase. A list of known error tasks opens.

3. Select a target record.

4. Click **Fill** in the **Assignment** field to select an applicable assignment group.

5. Click **Fill** in the **Assignee** field to select a Problem Analyst to apply the fix.

6. In the Activities section, click **New Update Type** and then select the applicable update type.

7. Add notes to **New Update**.

8. Click **Save & Exit**.

Note: Service Manager automatically updates a task record with any related record information as you update the task.

Close a known error task

Part of Workflow(s):

Applies to User Roles:

After someone has validated a workaround or applied and tested a solution for a problem, the Problem Analyst documents the results of those operations in the Activities section and closes the task.

Note: If you are using a change request or service request to implement a solution, then those processes execute the actual deployment.

To update and close a known error task:

1. Click **Problem Management** > **Known Error Tasks** > **Search Known Error Tasks**.

2. Use search or advanced search to find one or more records.

3. Double-click the known error task that you want to update and close.

4. Document your findings in the Activities section.

   ○ In the **New Update Type**field, select the applicable update type.

   ○ In the **New Update**field, type a description of the test results. It is a best practice to include how much time you spent on the task.

5. If the solution fails, notify the Problem Coordinator of the test results. The Problem Coordinator documents the test results in the problem record, and then determines the next steps for this investigation to fix the problem.

6. Click **Close Task**.

Investigate and diagnose a known error task

Part of Workflow(s):

Applies to User Roles:

Problem Coordinators assign known error tasks to the Problem Analyst who has the required skills and resources to investigate a workaround or proposed solution for the task. The Problem Analyst is expected to take the information provided in the task to investigate the issue and determine if the workaround will fix the problem.

To work with a current known error task:

1. Click **Problem Management** > **Known Error Tasks** > **Known Error Task Queue** or view your To Do list.

2. Select the target record. You can see the description of the problem, due date, workaround, impact, urgency, and other details provided in the task.

3. In the Status field, update the status to **Work In Progress**.

4. Depending on the priority and impact of the known error, you may want to focus on defining a temporary fix that can be proposed or implemented within a short time frame. If you determine that the temporary fix must be implemented through a change request, document this in the testing results.

5. If the workaround does not fix the problem, open the Activities section to document your activities.

   a. In the **New Update Type** field list, select the applicable update type.

   b. In the **New Update**field, document what you did while trying to implement the workaround and how it failed. If you have suggestions for further investigation, document them. Include your time spent during the investigation.

   c. Notify the Problem Coordinator that the workaround failed so the coordinator can determine what other resources and skills are required to further diagnose the problem.

   d. Click **Close Task**.

6. If you determine the workaround fixes the problem, document your workaround in the Activities section:
   a. In the **New Update Type**field list, select the applicable update type.

   b. In the**New Update** field, add notes to document what you did to apply the workaround. Make sure you include detailed steps on how the workaround should be implemented to fix the problem. If there are any risks involved when applying the workaround, note those as well. If you have additional information, such as configuration items affected, costs or additional costs, and resources needed, add those details here. Include your time spent during the investigation.

7. Click **Save & Exit**.

8. Test your workaround, and then document those results in your known error task.

Test the known error solution

Part of Workflow(s):

Applies to User Roles:

One of the tasks of the Problem Analyst is to review and test the proposed solution listed in the known error task. This test validates the proposed solution for this known error. If this test is successful, the Problem Coordinator documents the solution in the known error record.

To update a tested workaround (or solution):

1. Click **Problem Management** > **Known Error Tasks** > **Known Error Task Queue** or view your To Do list.

2. View and identify any known error tasks with a proposed solution that can be tested.

3. Test the proposed solution described in the Workaround field in the Details section, using a test environment that is as close as possible to the production environment.

4. Document the test results and other current activities.

   In the **Workaround** field of the Details section, type the date and details of your test results and findings. The Problem Coordinator uses these results to update the known error record.

   Note: Notify the Problem Coordinator of the test results. If the test is successful, the Problem Coordinator validates the test results and makes additional determinations. If the test fails, the Problem Coordinator escalates the problem to the Problem Manager. The Problem Manager then determines the resources and skills needed to diagnose the problem.

5. In the Activities section, select the applicable update type from the **New Update Type** field list and add helpful notes about current activities in the **New Update** field. Include your time spent during the test.

6. Click **Close Task**.

Update a known error

Part of Workflow(s):

"Known error logging and categorization (SO4.4)" on page 55

"Known error investigation (SO4.5)" on page 58

Applies to User Roles:

"Problem Coordinator" on page 11

"Problem Manager" on page 14

You should always update a known error record with the outcome of the known error investigation. If the solution is validated, the Problem Coordinator updates the known error with the information about the solution, including the cost and resources needed to implement the solution and any possible risks.

You can view related tasks to see what work others have done to determine the known error, a workaround, and the time spent working on the investigation.

You should record all the investigation activities in the known error to track the effort associated with the problem, task, or known error. After the current activities for a phase are complete, you advance the known error record to the next phase.

To update a known error:

1. Click **Problem Management** > **Known Error** > **Search Known Errors**.

2. Use search or advanced search to find one or more records.

3. Select an existing known error from the record list.

4. Type detailed information in the **Solution** field. You will find this information in the known error task where the Problem Analyst documented the details. Make sure you include cost and resource information, and any possible risks.

5. In the Activities section, select the applicable update type from the **New Update Type** field list.

6. Type additional updates in the **New Update** field.

7. If you are ready to advance this known error record to the next phase, click **Next Phase**.

   For example: If the known error record is in the known error investigation phase, when you click Next, the known error record advances to the Known Error Solution Acceptance phase.

   Note: Notify the Problem Manager about the details of the tested solution.

8. Click **Save & Exit**.

Update a problem

Part of Workflow(s):

"Problem and known error monitoring
(SO4.9)" on page 86

Applies to User Roles:

"Problem Analyst" on page 10

"Problem Coordinator" on page 11

"Problem Manager" on page 14

You may need to update problem records many times. Typically, you add relevant information to the Activities section to describe the work you performed to resolve the problem. The Activities section provides you with information about the work other operators have performed to resolve the problem. You can use the Activity section to view the history of other activities, such as when the record opened or when the status of the record changed.

You should record all the investigation activities in the known error to track the effort associated with the problem, task, or known error. After the current activities for a phase are complete, you advance the known error record to the next phase.

To update a problem, follow these steps:

1. Click **Problem Management** > **Problem Control** > **Search Problems**.

2. Use search or advanced search to find one or more records.

3. Select an existing problem from the record list.

4. To document test results provided by the Problem Analyst, follow these steps:
   a. In the Problem Details section, enter a detailed update in **Suggested Workaround** field. Include the necessary actions to implement the solution and any possible risks.

   b. If the solution needs to be implemented through the Change Management process, open a change request.

   c. Select the Assessment section and enter the following information to document the estimated costs and resources:
      - The estimated number of days to apply the fix

      - The estimated costs

      - Click the **Fill** icon to select any affected CIs

5. In the Activities section, select the applicable update type in the **New Update Type** field list.

6. In the **New Update** field, type the description of the update.

7. Consider whether the priority of resolving this problem has changed. If you need to update the priority of this record, select the **Problem Details** section, and then follow these steps:
    ○ Update the **Impact**, if necessary.

    ○ Update the **Urgency**, if necessary.

8. Consider whether the problem needs further investigation. If so, update the **Status** field to **Deferred** and schedule it for investigation at a later date.

9. Click **Save**.

10. If you are ready to advance this problem record to the next phase, click **Next Phase** to proceed to the next phase.

    For example, you may want to advance to the next phase after you finish the categorization phase.

    > **Note:** Before you advance to the next phase, make sure you have added the following information to the problem record:

    ○ Root Cause Description

    ○ Root Cause Target Date

    ○ Solution Target Date

    After you verify this information, click **Next Phase** to advance the problem record to the Problem Prioritization and Planning phase.

    > **Note:** When all known errors are closed, Service Manager automatically updates the problem record from the Problem Resolution phase to the Problem Closure and Review phase.

11. Click **Save & Exit**.

> **Note:**
>
> • If you update the workaround before the Problem Analyst is finished diagnosing and testing, make sure you notify the Problem Analyst.

- If any outstanding incidents matched the problem, notify the Incident Analyst.

Known error solution acceptance (SO4.6)

The known error solution acceptance process begins when a solution has been identified and documented. This process reviews and approves the solution for implementation, taking into consideration the cost and impact of the solution with stakeholders.
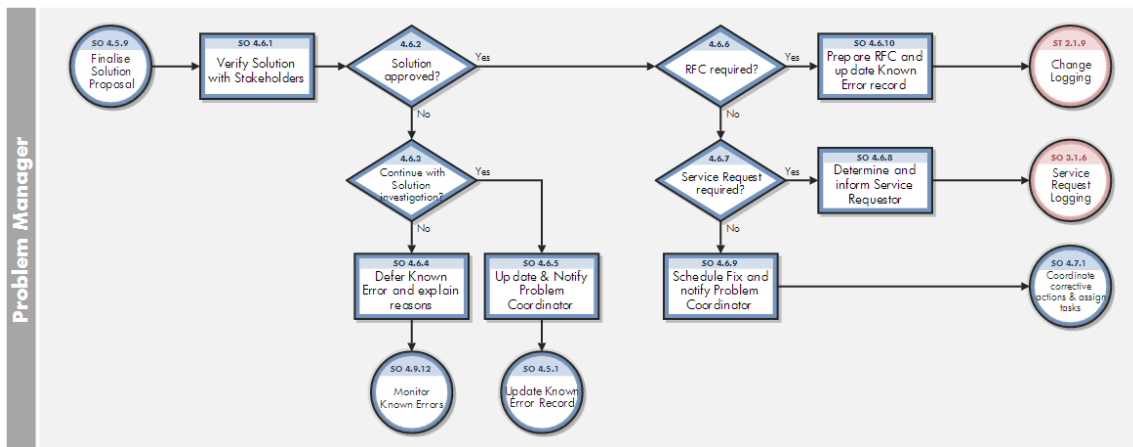
Assign a known error record to schedule a fix

Part of Workflow(s):

Applies to User Roles:

When you have validated a solution to a known error problem and determined that the required approach can be resolved by a Problem Analyst, do the following:

1. Click **Problem Management** > **Error Control** > **Search Known Errors**.

2. Use search or advanced search to find one or more records.

3. Select a known error record in the Known Error Solution Acceptance phase from the record list.

4. Click **Next Phase** to advance the phase of the known error record to **Known error resolution**.

5. The Problem Coordinator for the group displays in the **Problem Coordinator** field. If you need to reassign this known error record to a different coordinator, click **Fill** to generate a record list of Problem Coordinator names and choose one.

6. Note the resolution information from the problem management meeting.
   ○ In the Activities section, click **New Update Type** and then select Problem meeting.

   ○ Type notes in **New Update** to add information about the proposed fix and requested fix date. The Problem Coordinator uses this information to schedule the fix for a Problem Analyst to resolve.

7. Click **Save & Exit**. The system notifies the Problem Coordinator of this updated record.

Defer a known error and the related problem

Part of Workflow(s):

Applies to User Roles:

If you determine that a solution will not be implemented for now, you can defer a known error and the related problem for a specified period of time. Determine a date by which the problem and known error must be reviewed for additional actions, and then update the known error record and related problem record with current information.

To defer a known error and the related problem:

1. Click **Problem Management** > **Error Control** > **Search Known Errors**.

2. Use search or advanced search to find one or more records.

3. Select the target record.

4. In the **Status** field list, select **Deferred**.

5. In the **Priority** field, update the priority code.

6. Enter the update type and reasons why the problem is being deferred.
    a. In the Activities section, select Problem deferral in the **New Update Type** field.

    b. In the **New Update** field, type notes to add information about the reasons why the problem is being deferred and the proposed schedule of when the problem can be resolved.

7. Update the related problem record.
    a. In the Related Records section, double-click the problem record.

    b. In the Problem Details section, update the **Solution Identified Date** field with the date by which the problem and known error should be reviewed for additional actions.

    c. In the Activities section, select **Problem deferral** in the New Update Type field list.

    d. In the **New Update** field, type notes to add information about the reasons why the problem is being deferred and the proposed schedule of when the problem can be resolved.

    e. Click **Save & Exit**. The system notifies the Problem Coordinator and returns to the list of known error records.

Open a change request from a known error record

Part of Workflow(s):

Applies to User Roles:

When you have validated a solution to a known error problem and determined that the required approach can be resolved with a change request, do the following:

1. Click **Problem Management** > **Error Control** > **Search Known Errors**.

2. Use search or advanced search to find one or more records.

3. Select a known error record in the Known Error Solution Acceptance phase from the record list.

4. Click **More** or the More Actions icon and select **Open Related Change**. A change form opens with a Change ID number assigned to it and some required information from the known error record.

5. Type a **Title** and **Description** in the change record.

6. Click **Fill** in the required fields, such as the **Initiated by** and **Assignment Group** fields, and then choose the applicable information. When the Assignment Group is chosen, the Change Coordinator is automatically assigned for that group.

7. Click **Save**. A message displays, stating that the change logging phase has been opened. You can contact the Change Coordinator to inform him about the request to resolve a known error. The change record is also linked to the known error record and can be viewed in the Related Records section of the known error record.

8. Click **Cancel** to go back to the known error record to update the phase and the current activities of the record.
   - Locate the record in the list of records.

   - Click **Next Phase** to advance the phase of the record to **Known error resolution**.

   - In the Activities section, select the Prepare change or request update type in the **New Update Type** field.

   - In the **New Update** field, type notes to add helpful information.

9. Click **Save & Exit**.

Open a service request for a known error record

Part of Workflow(s):

"Known error solution acceptance (SO4.6)"
on page 68

Applies to User Roles:

"Problem Manager" on page 14

When you have validated a solution to a known error problem and determined that the required approach can be resolved with a service request, do the following:

1. Click **Problem Management** > **Error Control** > **Known Error Queue**.

2. In the Queue field, select **Request**.The Request Category form is displayed.

3. Click **New**, and then choose a category from the list of categories that displays for this service request.

4. When you select **Customer Procurement Requests**:
   - Select from the **Master Catalog**, the category of the item you are requesting, and the item(s) you wish to request. A list of the items you selected displays with the total cost.

   - Click **Submit Request**, and then fill in the required fields (such as requested delivery date and reason for request).

   - Go to step 7.

5. When you select **Human Resources**:
   - Select a category.

   - Click **Submit Request**, and then fill in the required fields (such as start date, department, and manager).

   - Go to step 7.

6. When you select **Employee Office Move Process**:
   - Select from the available list of options. You can choose to select defaults and also modify the quantity. A summary list of your selections displays with total cost.

   - Click **Submit Request**, and then fill in the required fields (such as first name, last name, and effective date).

   - Go to step 7.

7. Click **Save**.

   A summary form of the items you requested displays with total cost. You can choose to:

   - **Cancel** your request.

   - **Add Items** to your request.

   - **Submit Request**. A message displays stating a summary of your request with total cost. It also states the request number that is associated with the incident record.

8. Click **Save & Exit**.

   A message displays the new quote ID number and states that the request quote is in the Manager Approval phase. You can contact the coordinator of the group to inform him of the new service request for the known error record.

9. Notate the new service request information and update the phase in the known error record.

10. Locate the known error record, and then update the phase of the record. Click **Next Phase** to advance the phase to **Known Error Resolution**.

11. In the Activities section, select the Prepare change or request update type in the **New Update Type** field..

12. In the **New Update** field, type notes to add the new service request ID number and any other helpful information.

13. Click **Save & Exit**.

Known error resolution (SO4.7)

Known error resolution is the process by which stakeholders can ensure that a fix for a known error is implemented. This occurs after a solution for the known error has already been determined by the Problem Analyst, validated by the Problem Coordinator, and approved by the Problem Manager. The determination has been made that the fix can be applied through a change request, service request, or directly by the Problem Analyst.
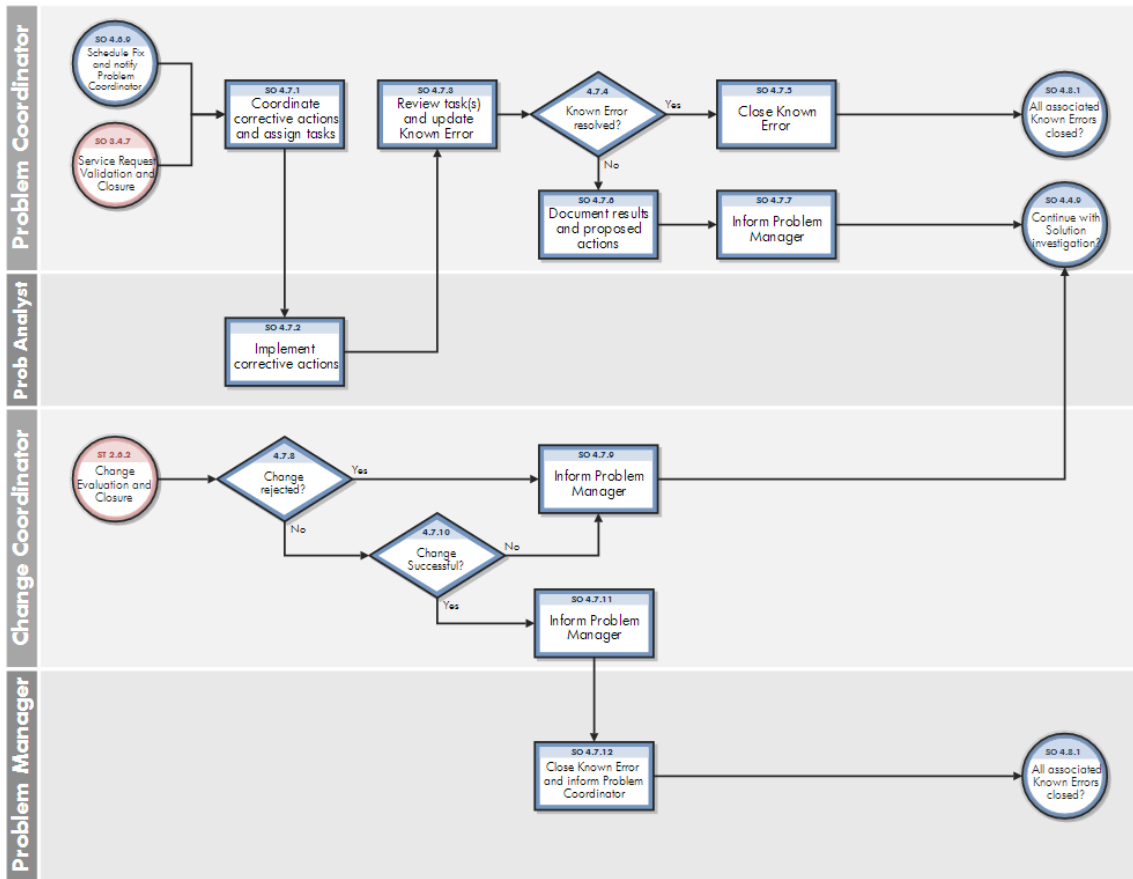
Assign a known error task

Part of Workflow(s):

"Known error logging and categorization
(SO4.4)" on page 55

"Known error resolution (SO4.7)" on the
previous page

Applies to User Roles:

"Problem Coordinator" on page 11

"Problem Manager" on page 14

You assign known error tasks to investigate how to fix known errors and apply fixes to the known
errors. In the known error investigation process, the Problem Coordinator assigns a known error task to
the Problem Analyst. The Problem Analyst determines a workaround or temporary solution for the error
and documents it in the known error task.

When you have multiple configuration items (CIs) to fix, the Problem Coordinator opens a known error task for each affected CI.

Note: The Problem Coordinator creates these tasks in the known error investigation phase. When ready, the Problem Coordinator assigns the task to the applicable assignment group(s) and Problem Analyst(s) as the known error process moves forward.

To assign a known error task:

1. Click **Problem Management** > **Known Error Tasks** > **Search Known Error Tasks**.

2. Use search or advanced search to find one or more records.

   Note: The Problem Coordinator has opened all necessary tasks in the Known error investigation phase. A list of known error tasks opens.

3. Select a target record.

4. Click **Fill** in the **Assignment** field to select an applicable assignment group.

5. Click **Fill** in the **Assignee** field to select a Problem Analyst to apply the fix.

6. In the Activities section, click **New Update Type** and then select the applicable update type.

7. Add notes to **New Update**.

8. Click **Save & Exit**.

Note: Service Manager automatically updates a task record with any related record information as you update the task.

Close a known error

Part of Workflow(s):

"Known error resolution (SO4.7)" on page 73

"Problem and known error monitoring
(SO4.9)" on page 86

Applies to User Roles:

"Problem Analyst" on page 10

"Problem Coordinator" on page 11

"Problem Manager" on page 14

After you verify that a known error meets the closure conditions, you can close the known error. For example, when the Problem Coordinator receives notification from the Change Management process that a solution is successfully implemented and verifies that the known error is resolved, the known error record can be closed.

To update and close a known error:

1. Click **Problem Management** > **Error Control** > **Search Known Errors**.

2. Use search or advanced search to find one or more records.

3. Double-click the known error record that you want to update and close.

4. In the Activities section, select the applicable update type in the **New Update Type** field.

5. In the **New Update** field, type current activity update notes.

6. Click **Save**.

7. Click **Close Known Error**. The status changes to Closed.

Note: When you close a known error record, Service Manager does not automatically prompt you to open a change request. They are independent activities.

Close a known error task

Part of Workflow(s):

"Known error logging and categorization (SO4.4)" on page 55

"Known error investigation (SO4.5)" on page 58

Applies to User Roles:

"Problem Analyst" on page 10

"Problem Coordinator" on page 11

"Problem Manager" on page 14

After someone has validated a workaround or applied and tested a solution for a problem, the Problem Analyst documents the results of those operations in the Activities section and closes the task.

Note: If you are using a change request or service request to implement a solution, then those processes execute the actual deployment.

To update and close a known error task:

1. Click **Problem Management** > **Known Error Tasks** > **Search Known Error Tasks**.

2. Use search or advanced search to find one or more records.

3. Double-click the known error task that you want to update and close.

4. Document your findings in the Activities section.
   ○ In the **New Update Type**field, select the applicable update type.

   ○ In the **New Update**field, type a description of the test results. It is a best practice to include how much time you spent on the task.

5. If the solution fails, notify the Problem Coordinator of the test results. The Problem Coordinator documents the test results in the problem record, and then determines the next steps for this investigation to fix the problem.

6. Click **Close Task**.

Defer a problem

Part of Workflow(s):

"Problem prioritization and planning (SO4.2)
" on page 36

"Known error resolution (SO4.7)" on page 73

Applies to User Roles:

"Problem Coordinator" on page 11

"Problem Manager" on page 14

If you want to defer a problem, you must specify the reason for deferral. For example, if after investigation you decide to delay scheduling a problem for resolution, you can defer it. Or, if the Problem Analyst was unable to successfully test and validate a fix and you want to continue investigating a solution, you can defer the problem. You can later finalize how to handle the problem when you review deferred problems.

To defer a problem:

1. Click **Problem Management** > **Problem Control** > **Search Problems**.

2. Use search or advanced search to find one or more records.

3. Double-click the problem record that you want to defer.

4. In the Status field list, select **Deferred**.

5. In the Activities section, select the applicable update type from the **New Update Type** field list.

6. In the **New Update** field, type the reason for the deferral.

7. Click **Save & Exit**.

Note: Make sure you update the status of the problem during your regularly-scheduled review of deferred problems.

Update a problem

Part of Workflow(s):

"Problem detection, logging, and categorization (SO4.1)" on page 24

"Known error investigation (SO4.5)" on page 58

"Known error resolution (SO4.7)" on page 73

"Problem closure and review (SO4.8)" on page 80

"Problem and known error monitoring (SO4.9)" on page 86

Applies to User Roles:

"Problem Analyst" on page 10

"Problem Coordinator" on page 11

"Problem Manager" on page 14

You may need to update problem records many times. Typically, you add relevant information to the Activities section to describe the work you performed to resolve the problem. The Activities section provides you with information about the work other operators have performed to resolve the problem.

You can use the Activity section to view the history of other activities, such as when the record opened or when the status of the record changed.

You should record all the investigation activities in the known error to track the effort associated with the problem, task, or known error. After the current activities for a phase are complete, you advance the known error record to the next phase.

To update a problem, follow these steps:

1. Click **Problem Management** > **Problem Control** > **Search Problems**.

2. Use search or advanced search to find one or more records.

3. Select an existing problem from the record list.

4. To document test results provided by the Problem Analyst, follow these steps:
   a. In the Problem Details section, enter a detailed update in **Suggested Workaround** field. Include the necessary actions to implement the solution and any possible risks.

   b. If the solution needs to be implemented through the Change Management process, open a change request.

   c. Select the Assessment section and enter the following information to document the estimated costs and resources:
      - The estimated number of days to apply the fix

      - The estimated costs

      - Click the **Fill** icon to select any affected CIs

5. In the Activities section, select the applicable update type in the **New Update Type** field list.

6. In the **New Update** field, type the description of the update.

7. Consider whether the priority of resolving this problem has changed. If you need to update the priority of this record, select the **Problem Details** section, and then follow these steps:
   ○ Update the **Impact**, if necessary.

   ○ Update the **Urgency**, if necessary.

8. Consider whether the problem needs further investigation. If so, update the **Status** field to **Deferred** and schedule it for investigation at a later date.

9. Click **Save**.

10. If you are ready to advance this problem record to the next phase, click **Next Phase** to proceed to the next phase.

   For example, you may want to advance to the next phase after you finish the categorization phase.

   > **Note:** Before you advance to the next phase, make sure you have added the following information to the problem record:

   ○ Root Cause Description

   ○ Root Cause Target Date

   ○ Solution Target Date

   After you verify this information, click **Next Phase** to advance the problem record to the Problem Prioritization and Planning phase.

   > **Note:** When all known errors are closed, Service Manager automatically updates the problem record from the Problem Resolution phase to the Problem Closure and Review phase.

11. Click **Save & Exit**.

> **Note:**
>
> - If you update the workaround before the Problem Analyst is finished diagnosing and testing, make sure you notify the Problem Analyst.
>
> - If any outstanding incidents matched the problem, notify the Incident Analyst.

Problem closure and review (SO4.8)

After a known error has been resolved, any related problems are automatically forwarded from the Problem Resolution phase to the Problem Closure and Review phase. In this phase, problems must be reviewed to determine whether all related errors have been resolved and to validate that the problem is resolved as well.
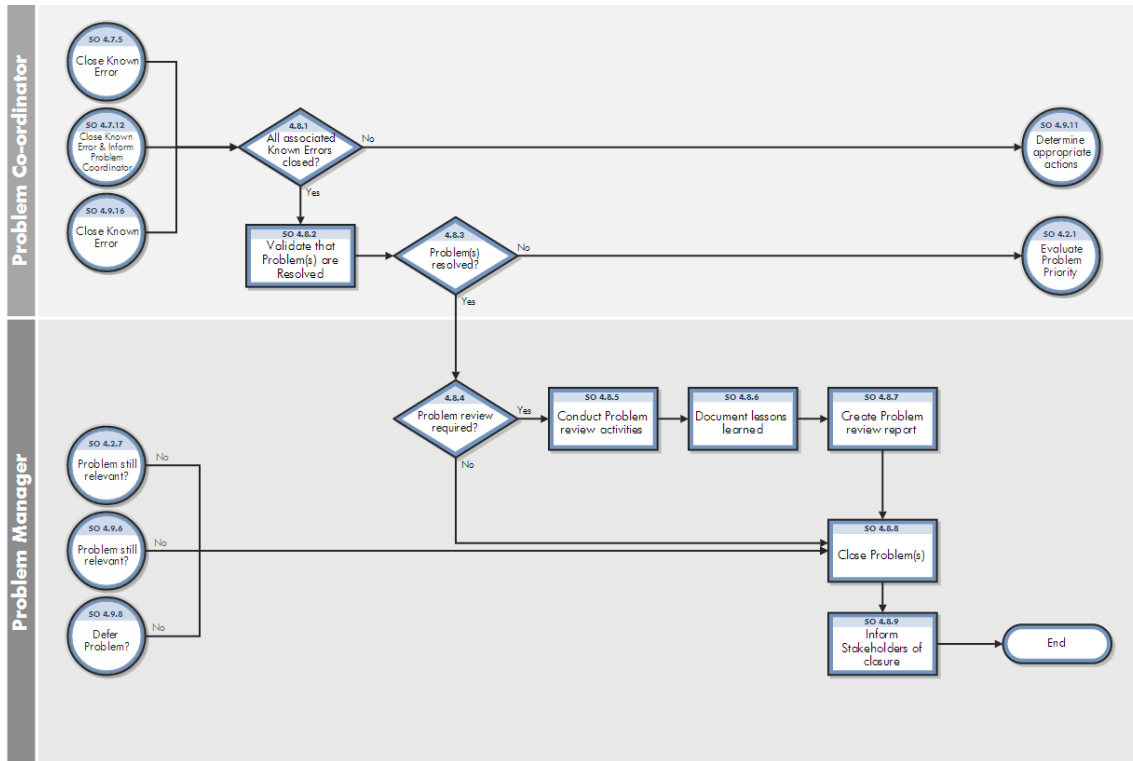
Close a problem

Part of Workflow(s):

"Problem closure and review (SO4.8)" on the
previous page

"Problem and known error monitoring
(SO4.9)" on page 86

Applies to User Roles:

"Problem Analyst" on page 10

"Problem Manager" on page 14

The Problem Analyst verifies that all related known errors are closed or resolved before closing the
problem record. The Problem Analyst then consults with the Problem Manager to determine if a
problem review and problem report are required. If a review is required, the Problem Manager
documents the results of the review as part of the problem report. As part of the problem closure and
review process, the phase of the problem record is updated to Problem Closure and Review. When the
review is complete, the problem is closed with the applicable closure code.

To close a problem:

1. Click **Problem Management** > **Problem Control** > **Search Problems**.

2. Use search or advanced search to find one or more records.

3. Double-click the problem record that you want to close.

4. Click **Next Phase** to change the phase to **Problem Closure and Review**.

5. In the Activities section, select the applicable update type in the **New Update Type** field.

6. Type the current activity update in the **New Update**field, .

7. Click **Save**.

8. In the **Closure Code**field, select the applicable code.

9. Click **Close Problem**. The status changes to Closed.

Update a problem

Part of Workflow(s):

"Problem detection, logging, and categorization (SO4.1)" on page 24

"Known error investigation (SO4.5)" on page 58

"Known error resolution (SO4.7)" on page 73

"Problem closure and review (SO4.8)" on page 80

"Problem and known error monitoring (SO4.9)" on page 86

Applies to User Roles:

"Problem Analyst" on page 10

"Problem Coordinator" on page 11

"Problem Manager" on page 14

You may need to update problem records many times. Typically, you add relevant information to the Activities section to describe the work you performed to resolve the problem. The Activities section

provides you with information about the work other operators have performed to resolve the problem. You can use the Activity section to view the history of other activities, such as when the record opened or when the status of the record changed.

You should record all the investigation activities in the known error to track the effort associated with the problem, task, or known error. After the current activities for a phase are complete, you advance the known error record to the next phase.

To update a problem, follow these steps:

1. Click **Problem Management** > **Problem Control** > **Search Problems**.

2. Use search or advanced search to find one or more records.

3. Select an existing problem from the record list.

4. To document test results provided by the Problem Analyst, follow these steps:
   a. In the Problem Details section, enter a detailed update in **Suggested Workaround** field. Include the necessary actions to implement the solution and any possible risks.

   b. If the solution needs to be implemented through the Change Management process, open a change request.

   c. Select the Assessment section and enter the following information to document the estimated costs and resources:
      - The estimated number of days to apply the fix

      - The estimated costs

      - Click the **Fill** icon to select any affected CIs

5. In the Activities section, select the applicable update type in the **New Update Type** field list.

6. In the **New Update** field, type the description of the update.

7. Consider whether the priority of resolving this problem has changed. If you need to update the priority of this record, select the **Problem Details** section, and then follow these steps:
   o Update the **Impact**, if necessary.

   o Update the **Urgency**, if necessary.

8. Consider whether the problem needs further investigation. If so, update the **Status** field to **Deferred** and schedule it for investigation at a later date.

9. Click **Save**.

10. If you are ready to advance this problem record to the next phase, click **Next Phase** to proceed to
    the next phase.

    For example, you may want to advance to the next phase after you finish the categorization phase.

    > **Note:** Before you advance to the next phase, make sure you have added the following
    > information to the problem record:

    ○ Root Cause Description

    ○ Root Cause Target Date

    ○ Solution Target Date

    After you verify this information, click **Next Phase** to advance the problem record to the Problem
    Prioritization and Planning phase.

    > **Note:** When all known errors are closed, Service Manager automatically updates the problem
   > record from the Problem Resolution phase to the Problem Closure and Review phase.

11. Click **Save & Exit**.

> **Note:**
>
> - If you update the workaround before the Problem Analyst is finished diagnosing and testing,
>   make sure you notify the Problem Analyst.
>
> - If any outstanding incidents matched the problem, notify the Incident Analyst.

Reopen a known error

Part of Workflow(s):

"Problem closure and review (SO4.8)" on
page 80

Applies to User Roles:

"Problem Coordinator" on page 11

The Problem Coordinator reviews resolved problems to ensure that the problem resolution is complete. For problems that are not completely resolved, the Problem Coordinator reopens the Known Error and restarts the solution investigation phase.

To reopen a known error:

1. Click **Problem Management** > **Error Control** > **Search Known Errors**.

2. Use search or advanced search to find one or more records.

3. Select a record to view.

4. Click **Reopen**.

5. Click **Save & Exit**.

Reopen a problem

Part of Workflow(s):

"Problem closure and review (SO4.8)" on page 80

Applies to User Roles:

"Problem Analyst" on page 10 (after record is assigned)
"Problem Manager" on page 14

If a problem is not completely resolved, the Problem Manager reopens the problem record for further investigation.

To reopen a problem:

1. Click **Problem Management** > **Problem Control** > **Search Problems**.

2. Use search or advanced search to find one or more records. The default search criteria is for open records. In the **Status** field, select **Closed**. If you have the problem record ID number, type the Problem Record ID number in the **Problem ID** field.

3. Select the target record to view.

4. Click **Reopen**.

5. Click **Prior Phase** until the record is at the applicable phase. For example, the Problem Investigation and Diagnosis phase.

6. In the Activities section, click the **New Update Type**field list and select the applicable update type code.

7. In the **New Update** field, type a description of the current activities and explain how this problem should be further investigated.

8. Click **Save & Exit**.

Problem and known error monitoring (SO4.9)

Problem Management monitors the continuing impact of problems and known errors on user services. In the Problem and known error monitoring process, the Problem Manager periodically reviews the problem and known error records and monitors the progress of activities in those records against the target dates agreed to with stakeholders.

Close a known error

Part of Workflow(s):

Applies to User Roles:

After you verify that a known error meets the closure conditions, you can close the known error. For example, when the Problem Coordinator receives notification from the Change Management process that a solution is successfully implemented and verifies that the known error is resolved, the known error record can be closed.

To update and close a known error:

1. Click **Problem Management** > **Error Control** > **Search Known Errors**.

2. Use search or advanced search to find one or more records.

3. Double-click the known error record that you want to update and close.

4. In the Activities section, select the applicable update type in the **New Update Type** field.

5. In the **New Update** field, type current activity update notes.

6. Click **Save**.

7. Click **Close Known Error**. The status changes to Closed.

Note: When you close a known error record, Service Manager does not automatically prompt you to open a change request. They are independent activities.

Close a problem

Part of Workflow(s):

Applies to User Roles:

The Problem Analyst verifies that all related known errors are closed or resolved before closing the problem record. The Problem Analyst then consults with the Problem Manager to determine if a problem review and problem report are required. If a review is required, the Problem Manager documents the results of the review as part of the problem report. As part of the problem closure and review process, the phase of the problem record is updated to Problem Closure and Review. When the review is complete, the problem is closed with the applicable closure code.

To close a problem:

1. Click **Problem Management** > **Problem Control** > **Search Problems**.

2. Use search or advanced search to find one or more records.

3. Double-click the problem record that you want to close.

4. Click **Next Phase** to change the phase to **Problem Closure and Review**.

5. In the Activities section, select the applicable update type in the **New Update Type** field.

6. Type the current activity update in the **New Update** field, .

7. Click **Save**.

8. In the **Closure Code** field, select the applicable code.

9. Click **Close Problem**. The status changes to Closed.

Reassign a problem for additional support

Part of Workflow(s):

Applies to User Roles:

"Problem Manager" on page 14

After the Problem Manager has reviewed the outstanding problems and known error records and determined that the action needed is to escalate the problem for further investigation, the Problem Manager reassigns the problem record to another level of support.

To reassign a problem record:

1. Click **Problem Management** > **Problem Control** > **Search Problems**

2. Use search or advanced search to find one or more records. If you searched for a specific problem ID, the problem record you specified opens. Otherwise a list of problem records opens.

3. Double-click the problem record you want to reassign.

4. Click **Prior Phase** to change the phase back to **Problem Investigation and Diagnosis**.

5. Update the **Status** to **Open**.

6. Clear the assignment group in the **Assignment Group** field, and then click **Fill** to select a new assignment group.

7. Clear the Problem Coordinator in the **Problem Coordinator** field, and then click **Fill** to select the Problem Coordinator for the new assignment group.

8. In the Activities section, click the **New Update Type** field list and select the applicable update type.

9. In the **New Update** field, type notes to include your current activity update.

10. Click **Save & Exit**.

Review deferred problems

Part of Workflow(s):

"Problem prioritization and planning (SO4.2)
" on page 36

"Problem and known error monitoring
(SO4.9)" on page 86

Applies to User Roles:

"Problem Manager" on page 14

You should periodically review problems that are deferred to determine whether additional actions are required. As you evaluate these problems, you can determine if they should be deferred again, reassigned for further investigation, or closed if the problem is no longer relevant.
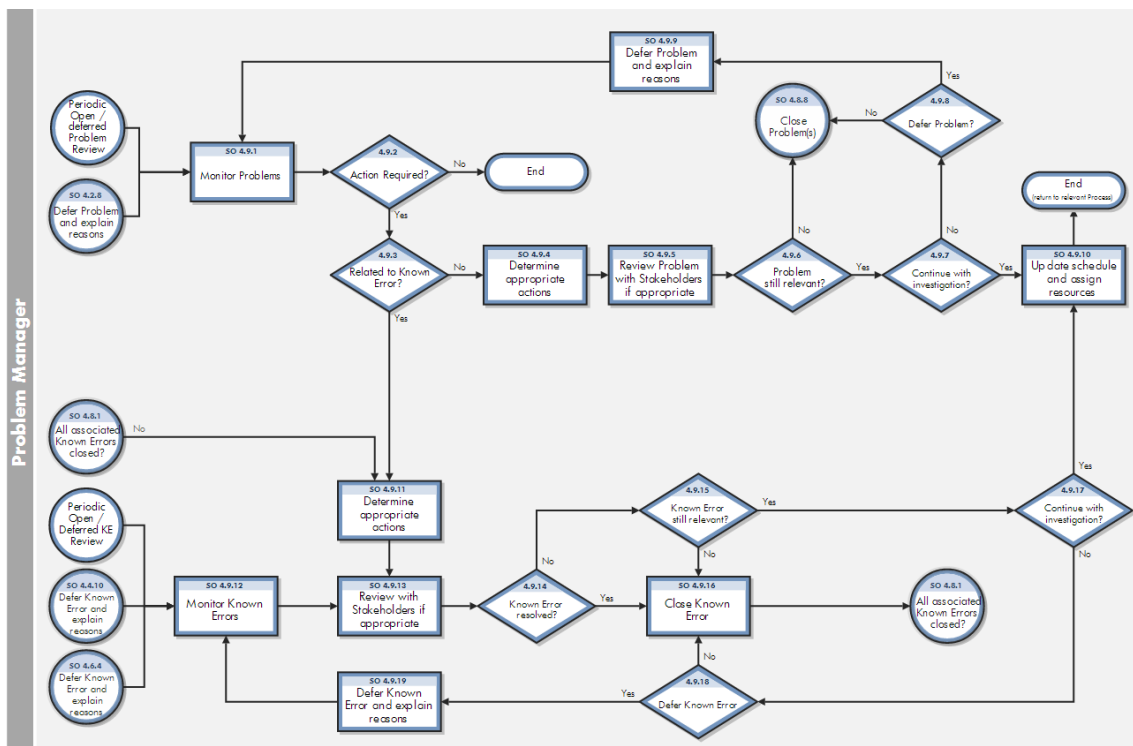
To review deferred problems:

1. Click **Problem Management** > **Problem Control** > **Search Problems**.

2. Use search or advanced search to find one or more records. You can refine your search by selecting **Deferred** in the Status field.

3. Double-click the problem record you want to review.

4. If necessary, discuss the problem with stakeholders to determine the current answers to the following questions:
   - What is the priority of resolving this problem?
     - Update the **Impact**, if necessary.
     - Update the **Urgency**, if necessary.
   - Is this problem correctly documented? If the problem is not correctly documented, update the problem documentation.
   - Does the problem need further investigation?
     - If the problem is still relevant, the problem remains at **Deferred** status and you should schedule it for investigation at a later date.
     - If the problem is no longer relevant, close the problem record.

5. In the Activities section, click the **New Update Type** field list and select the update type.

6. In the **New Update** field, type notes to update information about the current activity.

7. Click **Save & Exit**.

8. If you determine that you can close the problem record, do the following:
   - Make sure all known errors are closed.
   - Click **Next Phase** until you advance the problem record to the Problem Closure and Review phase.
   - Click **Fill** in the **Closure Code** field to select an applicable code.
   - Click **Close Problem**. The status changes to Closed.

Schedule a problem

Part of Workflow(s):

"Problem prioritization and planning (SO4.2)
" on page 36

"Problem and known error monitoring
(SO4.9)" on page 86

Applies to User Roles:

"Problem Coordinator" on page 11

"Problem Manager" on page 14

When you schedule a problem, set the target dates based on the priority and impact on affected services and whether there is a workaround or fix available. Assign or reassign the problem to a group with the skills necessary to find a resolution to the problem.

To schedule a problem:

1. Click **Problem Management** > **Problem Control** > **Search problems**.

2. Use search or advanced search to find one or more records.

3. Select a record from the list.

4. Select the **Assignment Group**.

5. Set the **Root Cause Identified Date**.

   Note: This field is only available for problems assigned to Open status.

6. Set the **Problem Resolution Date**.

   Note: This field is only available for problems assigned to Open status.

7. In the Activities section, click the **New Update Type** field list and select the applicable update type.

8. In the **New Update** field, type notes to include the current activity update.

9. Click **Save**.

10. To advance to the next phase, click **Next Phase**. For example, you might want to advance from the Problem Prioritization and Planning phase to the Problem Investigation and Diagnosis phase.

11. Click **Save & Exit**.

12. Notify the Problem Coordinator and the stakeholders about the plans and resources assigned to this problem.

Set a reminder for a problem record

Part of Workflow(s):

"Problem and known error monitoring
(SO4.9)" on page 86

Applies to User Roles:

"Problem Analyst" on page 10

"Problem Coordinator" on page 11

"Problem Manager" on page 14

You can set a reminder to notify you if an existing problem record meets certain conditions by a specified time. For example, you may want to be reminded if a problem is still open or is not updated by a given date.

When you set the reminder, you can choose when and how you want to be notified. You will find this particularly helpful for persistent problems that need your immediate attention.

To set a reminder:

1. Click **Problem Management** > **Problem** > **Search Problems**.

2. Use search or advanced search to find one or more records.

3. Select a problem from the list of records.

4. Click **More** or the More Actions icon and select **Set Reminder**.

5. In the **Set Reminder** area, choose one of the following:
   - **Remind At**: To set a reminder for a particular day and time. Click **Fill** to display a calendar to choose a date and time for the reminder.

- **Remind In**: To set the reminder to occur after a particular time interval. If you choose this option, you must specify the time interval in hours, minutes, and seconds using the 00:00:00 format. You must also select a shift to specify the work schedule that this time interval is **Based On**.

- **Remind if**: To select a condition of when the reminder should occur.
  - **Always** (the default value)

  - **Problem has not been updated**

  - **Problem is still open**

  - **Problem is still assigned to me**

6. In the **Pop-up Message** area, select the type of notification.
   - **Pop-up**

   - **Page**

   - **Email**

   - **SM Mail**

7. If you selected **Pop-up** or **Page**, type the message in the **Message** field that you want to appear in the reminder.

8. If you selected **Email** or **SM Mail**, do the following:
   - Type a title for the mail in the **Title** field.

   - Select the type of mail message to send in the **Message Type** area.

9. Click **OK**.

Update a problem

Part of Workflow(s):

Applies to User Roles:

You may need to update problem records many times. Typically, you add relevant information to the Activities section to describe the work you performed to resolve the problem. The Activities section provides you with information about the work other operators have performed to resolve the problem. You can use the Activity section to view the history of other activities, such as when the record opened or when the status of the record changed.

You should record all the investigation activities in the known error to track the effort associated with the problem, task, or known error. After the current activities for a phase are complete, you advance the known error record to the next phase.

To update a problem, follow these steps:

1. Click **Problem Management** > **Problem Control** > **Search Problems**.

2. Use search or advanced search to find one or more records.

3. Select an existing problem from the record list.

4. To document test results provided by the Problem Analyst, follow these steps:
   a. In the Problem Details section, enter a detailed update in **Suggested Workaround** field. Include the necessary actions to implement the solution and any possible risks.

   b. If the solution needs to be implemented through the Change Management process, open a change request.

   c. Select the Assessment section and enter the following information to document the estimated costs and resources:
      - The estimated number of days to apply the fix

      - The estimated costs

- Click the **Fill** icon to select any affected CIs

5. In the Activities section, select the applicable update type in the **New Update Type** field list.

6. In the **New Update** field, type the description of the update.

7. Consider whether the priority of resolving this problem has changed. If you need to update the priority of this record, select the **Problem Details** section, and then follow these steps:
   - Update the **Impact**, if necessary.

   - Update the **Urgency**, if necessary.

8. Consider whether the problem needs further investigation. If so, update the **Status** field to **Deferred** and schedule it for investigation at a later date.

9. Click **Save**.

10. If you are ready to advance this problem record to the next phase, click **Next Phase** to proceed to the next phase.

    For example, you may want to advance to the next phase after you finish the categorization phase.

    > **Note:** Before you advance to the next phase, make sure you have added the following information to the problem record:

    - Root Cause Description

    - Root Cause Target Date

    - Solution Target Date

    After you verify this information, click **Next Phase** to advance the problem record to the Problem Prioritization and Planning phase.

    > **Note:** When all known errors are closed, Service Manager automatically updates the problem record from the Problem Resolution phase to the Problem Closure and Review phase.

11. Click **Save & Exit**.

    > **Note:**

- If you update the workaround before the Problem Analyst is finished diagnosing and testing, make sure you notify the Problem Analyst.

- If any outstanding incidents matched the problem, notify the Incident Analyst.

View records related to a problem

Part of Workflow(s):

"Problem and known error monitoring
(SO4.9)" on page 86

Applies to User Roles:

"Problem Analyst" on page 10

"Problem Coordinator" on page 11

"Problem Manager" on page 14

Part of the review process for monitoring problems includes reviewing related records. When you review records related to a problem, you can see how many incidents and other record types are affected by the reported problem. As the Problem Manager reviews and monitors problems and known errors, this is an opportunity to see if any trends are developing, and to resolve any issues quickly.

To view a related record:

1. Click **Problem Management** > **Problem** > **Search problems**.

2. Use search or advanced search to find one or more records.

3. Select a problem from the record list.

4. Click **More** or the More Actions icon and select **Related**. View one of the following:
   - **Incidents**

   - **Problems**

   - **Known Errors**

5. Select the record type you want to view, and then do the following:

   ○ Click **Back** to return to the problem record.

   ○ Click **Edit** to update the record.

   ○ Click **Delete** to delete the record.

   ○ Click **Count** to view the total number of records.

6. Double-click the record that you want to view.

7. Click **Save & Exit**.

Access Problem Management reports

Applies to User Roles:

Problem Manager

Problem Coordinator

The Reporting tool in HP Service Manager provides a number of out-of-box reports on the problem data in your system. You can view these reports through a dashboard named Problem Overview (Global). You can also create your own dashboards to display other reports of your interest.

To access Problem Management reports, follow these steps:

1. Click **Problem Management** > **Problem Overview**.

   By default, the **Problem Overview (Global)** dashboard is displayed.

2. View the reports on the dashboard. For descriptions of these reports, see "Report descriptions and usage" on page 1.

3. Add your own dashboards as needed. For details, see "Update a dashboard" on page 1.

   Your custom dashboards are added to the dashboard list on the toolbar of the dashboard page.

   Tip: You can click **Export** to export the reports on a dashboard to PDF format.

4. Click the **Open dashboard settings** icon on a dashboard to set its properties, or click the **Set as Default Dashboard** button to set it as your default one.

Associating incidents and changes with problems

Problem, change, and incident records can be interrelated. HP Service Manager enables you to create new problem or incident records from existing problem records. It automatically links the problems back to related incidents or changes, and populates a new record with shared information.

Problem Management populates the problem record only once. Thereafter, you can add or change any imported data in the problem record as you associate other incident records. If there are new incidents that also relate to the problem, you can record them manually in the problem record.

Because of the relationship among problems, changes, and incidents, all existing problem, change, and incident records offer options to Open, View, or Associate the current record with other problem, change, and incident records.

Associate a problem with an existing incident

Part of Workflow(s):

"Problem detection, logging, and
categorization (SO4.1)" on page 24

Applies to User Roles:

"Problem Coordinator" on page 11

Any time that you discover that an incident was caused by an outstanding problem, you should link the incident to the problem record. It is important to link incidents to problems so that you can determine the impact of the problem in your organization. The more related incidents a problem has, the greater the impact of the problem. Monitoring the number of related incidents will also help you identify problems that require additional work to resolve.

To associate a problem with an existing incident, follow these steps:

1. Click **Problem Management** > **Search Problems**.

2. Use search or advanced search to find one or more records.

3. Select an existing problem from the record list.

4. Click **More** or the **More Actions** icon and select **Related** > **Incidents** > **Associate**.

5. Specify the incident number or click **Search** to view the incident search form.

6. Add optional filtering criteria, and then click **Search** again to display an incident record list.

7. Double-click the incident record you want to associate with the problem record. The incident record ID is displayed.
   - Click **OK** to link the incident record to the problem record.
   - Click **Cancel** to stop the search and exit.
   - Click **Search** to view the incident record search form again. Click **Search** again to redisplay the incident record list.

8. Click **OK**. Problem Management populates the Related Records section with information about the related incident.

Associate a problem with an existing problem

Part of Workflow(s):

"Problem detection, logging, and categorization (SO4.1)" on page 24

Applies to User Roles:

"Problem Analyst" on page 10

"Problem Coordinator" on page 11

"Problem Manager" on page 14

If you determine that a problem was caused by an existing problem record, you should link the problem with an existing problem record. It is important to link the problem, so you can determine the impact of the problem on your organization.

To associate a problem with an existing problem record:

1. Click **Problem Management** > **Problem Control** > **Search Problems**.

2. Use search or advanced search to find one or more records.

3. Select a target problem record from the list.

4. Click **More** or the More Actions icon and select **Related** > **Problems** > **Associate**. A search form appears, asking you which problem you would like to associate to the problem ID record that you

are in.

5. If you have the information, specify the problem record number you would like to associate to this problem record. If you do not have a problem record ID, click **Search** to view the problem record search form of possible problem records.

6. Add optional filtering criteria, and click **Search** again to open a problem record list.

7. Double-click the problem record you want to associate with the problem. The problem record ID appears.

   ○ Click **OK** to link the problem record to the problem.

   ○ Click **Cancel** to stop the search and exit.

   ○ Click **Search** to view the problem record search form again. Click **Search** again to reopen the problem record list.

8. Click **Save & Exit**. Problem Management populates the Related Records section with information about the related problem.

Create a new problem from a problem record

Part of Workflow(s):

All

Applies to User Roles:

"Problem Coordinator" on page 11

"Problem Manager" on page 14

There are times when you may need to open a new problem from an existing problem record. Whether a periodic review of incident trend analysis or as part of an organization's preventive or scheduled maintenance, you can open a related problem record that will be associated with the existing problem record.

To open a new problem from an existing problem record:

1. Click **Problem Management** > **Problem Control** > **Search Problems**.

2. Use search or advanced search to find one or more records.

3. Select a target problem record.

4. Click **More** or the More Actions icon and select **Related** > **Problems** > **Open**. A New Problem form opens.

5. Add the following required information:

    ○ **Assignment Group**: Click **Fill** to choose an assignment group.

    ○ **Service** and **Primary Configuration Item**: Click **Fill** to choose from the affected configuration Items (CIs).

    ○ **Title** of the problem record.

    ○ **Description** of the problem.

    ○ In the Problem Details section, select an **Area** and **Subarea** to describe the area affected by the problem, or click **Fill** to generate a record list and choose one.

    ○ **Impact**: For example, whether the problem is affecting the enterprise or a single user.

    ○ **Urgency**: For example, whether the problem is critical or average.

6. Click **Save & Exit**. You are returned to the existing problem record. A message displays, stating that the existing problem record ID has been associated with the new problem and the new problem ID number.

7. In the Activities section of the existing problem record, document current activities. In the **New Update Type** field, select the applicable update type.

8. In the **New Update** field, type notes to explain the new open problem and any other current activity information.

9. Click **Save & Exit**.

View records related to an incident

Part of Workflow(s):

All

Applies to User Roles:

"Problem Coordinator" on page 11

You may need to search for the related records of an incident to determine if the incident is a good problem candidate or to find the fix or workaround to a particular issue. Incidents may have related

interactions, changes, quotes, problems, or other incidents. You can view these related records from the options menu.

To view the records related to an incident:

1. Click **Problem Management** > **Problem** > **Search Incidents**.

2. Use search or advanced search to find one or more records.

3. Select an incident from the record list.

4. Click **More** or the More Actions icon and select **Related**. You can choose to view one of the following:

   - **Interactions**

   - **Incidents**

   - **Changes**

   - **Quotes**

   - **Problems**

5. Select the record type you want to view, and then do the following:
   - Click **Back** to return to the problem record.

   - Click **Edit** to update the record.

   - Click **Delete** to delete the record.

   - Click **Count** to view the total number of records.

6. Double-click the record that you want to view.

7. Click **Save** if you update the record.

8. Click **OK** to exit the record.

View records related to a problem

Part of Workflow(s):

Applies to User Roles:

"Problem Analyst" on page 10

"Problem Coordinator" on page 11

"Problem Manager" on page 14

Part of the review process for monitoring problems includes reviewing related records. When you review records related to a problem, you can see how many incidents and other record types are affected by the reported problem. As the Problem Manager reviews and monitors problems and known errors, this is an opportunity to see if any trends are developing, and to resolve any issues quickly.

To view a related record:

1. Click **Problem Management** > **Problem** > **Search problems**.

2. Use search or advanced search to find one or more records.

3. Select a problem from the record list.

4. Click **More** or the More Actions icon and select **Related**. View one of the following:
   - **Incidents**

   - **Problems**

   - **Known Errors**

5. Select the record type you want to view, and then do the following:
   - Click **Back** to return to the problem record.

   - Click **Edit** to update the record.

   - Click **Delete** to delete the record.

   - Click **Count** to view the total number of records.

6. Double-click the record that you want to view.

7. Click **Save & Exit**.

Problem Management administration

Problem Management administrators can configure the Problem Management environment, add users, assign profiles, and ensure that individual users have rights that are appropriate for their roles. For example, some users may not have the rights to close problem or known error records. Administrators can also define or change the Problem Management workflow by creating new workflow categories and customizing the phases within each category.

Access Problem Management administration

Applies to User Roles:

System Administrator

Problem Management provides administration tools that you can use to control problem handling to meet your organization's business objectives. Problem Management provides the following administration tools:

- Categories (for example, error control, problem control, and problem task) are administrative tools that assign a predefined workflow to a problem record. You can define unique task categories for tasks that you assign from a problem record.

- Error control phases and problem control phases are predefined activities in the workflow of a known error record or problem record. You can customize these phases, or define new categories with unique phases.

- Alert definitions define the basic alert information for each named alert and all general alerts. You can modify the static Alert Definition file to change how alerts are defined and triggered.

You can add, change, or delete categories, phases, and alert definitions to meet your business objectives.

To access Problem Management administration tools:

1. Click **Problem Management** > **Administration**.

2. Click one of the following:
   - **Alert Definitions**

   - **Error Control Categories**

   - **Error Control Phases**

   - **Problem Control Categories**

   - **Problem Control Phases**

   - **Problem Task Categories**

3. You can add, change, or delete alert definition records, categories, or phases.

Update multiple problem, task, or known error records

Applies to User Roles:

System Administrator

You can use mass update to update a value in one or more fields for multiple problem, task, or known error records. For example, if you want to update multiple high priority problem records, select the high priority view of the Problem queue. The value you enter for a particular field becomes the value for that field for all the records you select for the mass update.

Note: The following procedures are examples for updating multiple problem records. The same procedures apply to tasks and known errors also, except for minor changes in steps 1 and 2.

To update multiple problem records, using **Mass Update**:

1. Click **Problem Management > Problem Control > Search Problems**.

2. Select the View list of problem records you want to update. For example, select High Priority Problems to update multiple high priority problem records.

3. Use search or advanced search to find one or more records.

4. Select the individual records that you want to include in the mass update.

5. Click **Mass Update**.

6. Update the fields to be included in the mass update:
   - Double-click the field you want to update, and then type the value for the field in the text box or use the Fill feature to display a list of potential values for the field.

   - Click **Next**.

   - Continue updating the fields you want included in the mass update.

   - Click **Next** after each update.

   - In the **Activities** section, document what was included in the mass update. When the mass update is complete, these notes display in Journal Updates in the Activities section.

7. Click **Execute**. Mass update starts, and then displays each problem number as it is updated.

8. If a problem record cannot be included in the mass update, you can choose to:
   - **Retry**: Retry the mass update.

   - **Skip**: Skip the record to exclude it from the mass update and continue with the next record.

   - **End**: End this mass update, and retry it later.

To update multiple problem records, using **Complex Update**:

1. Click **Problem Management > Problem Control > Search Problems**.

2. Select the View list of problem records you want to update. For example, select High Priority Problems to update multiple high priority problem records.

3. Use search or advanced search to find one or more records.

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 record cannot be included in the complex update, you can choose to:
   - **Bypass**: Bypass this invalid message and include the record in the complex update.

   - **Skip**: Skip this record to exclude it from the complex update and continue with the next record.

   - **End**: End this complex update, and retry it later.

Problem Management Environment record

The Problem Management Environment record defines options that enable or disable Problem Management application functionality for all Problem Management users. By default, the Environment record has these out-of-box settings:

- Access Problem Management without an operator record.

- Use the Operator's full name instead of their login name.

- Enable past journal updates to appear on the Activities section of a problem record.

- Track operator time.

- Automatically post problem information as a solution candidate in the Knowledge Base.

- Use the default Problem Management category.

- Use a combination of the parent problem number plus a unique task number as the Task Number Control. If you choose a unique number, it can contain a maximum of six digits.

By default, these settings are off:

- Delay assigning a problem number.

- Specify how many related incidents can occur before a notification triggers with the Related

incident Threshold.

- Specify the elapsed time to occur between additional notifications with a Threshold Interval.

Select or clear options to change the way users access Problem Management.

Configure the Problem Management environment

Applies to User Roles:

System Administrator>

The Problem Management Environment record defines options that enable or disable Problem Management application functionality for all Problem Management users. By default, the Problem Management Environment record has default out-of-box settings. However, you can configure these settings to meet your business needs.

To configure the Problem Management environment settings:

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

2. Select new options or clear default options. Your changes redefine the Problem Management environment for all users.

3. When you have finished making your changes, click **Save**.

4. Click **OK**.

Alerts

An alert is a system event that occurs when the event meets predefined criteria. They signal a checkpoint, warning, or reminder to keep an activity on schedule. HP Service Manager calculates alert times by subtracting (or adding) a known interval from a specified time.

Alert calculations depend on the work schedule, time zones, or other defined input. A schedule might cover seven days a week and 24 hours a day. When Service Manager processes alerts, it excludes scheduled holidays and break times in its calculations. Service Manager can make the necessary adjustments to deliver alerts at the correct time, regardless of time zone differences. For example:

- The work shift starts at 8: 00 a.m. and ends at 5: 00 p.m.

- The lunch break starts at 12: 00 p.m. and ends at 1: 00 p.m.

If you schedule an alert to occur four and a half hours after the start of the shift, then the alert occurs at 1: 30 p.m. because the system excludes the lunch break interval when calculating the alert. If a holiday occurs, Service Manager postpones the alert until the next regularly scheduled day. For example:

- Independence Day holiday starts at 07/04/2004–2005 00: 00: 00 and ends at 07/05/2004–2005 00: 00: 00.

- If you schedule an alert at 5 p.m. July 3 to occur six hours later, the alert occurs at 3: 00 p.m. on July 5. The alert ignores all nonscheduled hours outside of work shift, the July 4 holiday, and scheduled break times.

Associated tables

Service Manager uses information from various tables to process alerts. The tables vary, depending on whether Service Manager processes the alert from the AlertDef or category table:

- AlertDef can use assignment, cm3groups, contacts, device, location, and ocmgroups.

- category uses assignment (for Incident Management alerts).

Create an alert definition record

Applies to User Roles:

System Administrator

To create alert definition records for use by the Change Management, Problem Management, and Request Management applications, follow these steps:

1. Change Management: Click **Change Management** > **Maintenance** > **Alerts**.

2. Problem Management: Click **Problem Management** > **Administration** > **Alert Definitions**.

3. Request Management: Click **Request Management** > **Maintenance** > **Supporting Files** > **Alert Definitions**.

4. Type the alert name in the **Alert Name** field.

5. Type the alert description in the **Description** field.

6. Complete the remaining fields in the alert definition record form. If necessary, press **Ctrl+H** to view help for each field.

   ○ **Scheduling** tab: describes the calculations that trigger when the alert occurs.

   ○ **Update** tab: describes Format Control considerations and notification messages to be sent.

   ○ **Work Schedule** tab: specifies the work schedule to which the alert belongs.

   ○ **Time Zone** tab: enables you to perform the following actions:

     • Define a specific time zone.

     • Define a RAD expression to set the time zone alert.

     • Obtain the time zone from a table lookup.

7. Click **Add**.

View an alert definition record

Applies to User Roles:

System Administrator

To view alert definition records for use in the Change Management, Problem Management, Request Management, or Service Level Management applications, follow these steps:

1. Select one of the following paths:

   ○ Change Management: Click **Change Management** > **Maintenance** > **Alerts**.

   ○ Problem Management: Click **Problem Management** > **Administration** > **Alert Definitions**.

   ○ Request Management: Click **Request Management** > **Maintenance** > **Supporting Files** > **Alert Definitions**.

   ○ Service Level Management: Click **Service Level Management** > **Configuration** > **Alert Definitions**.

2. Type or select optional search criteria.

3. Click **Search**.

4. Click any record in the list to view the alert details.

5. You can add to or change information in the form.

> **Tip:** If necessary, press **Ctrl+H** in the Windows client or press **F1** in the web client for each field.

6. If you make changes, click **Save**.

Click here to show or hide links to related topics.

Related concepts

"Alerts" on page 108

Related tasks

"Create an alert definition record" on page 109

Problem Control phases

A problem Control phase is a pre-defined activity in the workflow of a problem record. The out-of-box phases enable you to follow the Information Technology Infrastructure Library (ITIL) workflow. An administrator can customize these phases, or define new categories with unique phases to meet business objectives.

Add a problem control phase

Applies to User Roles:

System Administrator>

Problem Management phases are the activities in the life cycle of a problem. The out-of-box Information Technology Infrastructure Library (ITIL) workflow category matches the best practice recommendations of the ITIL process and the out-of-box HP Service Manager process.

To add a problem control phase:

1. Click **Problem Management** > **Administration** > **Problem Control Phases**.

2. Use search or advanced search to find one or more records. A list of problem control phases opens. You can customize these phases by adding a new phase, deleting a phase, or editing an existing phase.

3. Open a blank search form to add a new problem control phase record. When you finish adding information to create the new record, click **Add**.

4. Enter the following information to create the new problem control phase record.
   - Type a phase **Name**.

   - Type a phase **Description**.

   - Type the name of the **Form** to associate with this phase.

   - Type the link record to use to **Link to Tasks**.

   - On the **Controls** tab, type **false** to override the default value of **true** in the following fields:
     - **Update**

     - **Close**

     - **Reopen**

     - **Open Tasks**

     - **Create Known Error**

5. Select the **Alerts** tab to specify the name of one or more alerts that trigger when the new phase occurs.

6. To specify when HP Service Manager should automatically post information to the knowledgebase, type **true** or **false** in the following fields:
   - **On Open**

   - **On Update**

   - **On Close/Next Phase**

7. Click **Add** A message appears, confirming that the problem control phase record is added.

8. Click **OK**.

Edit a Problem Control phase

Applies to User Roles:

System Administrator>

As you reevaluate your organization's requirements, you may determine that you want to edit a Problem Control phase in order to update the defined activities in the life cycle of a problem.

To edit a Problem Control phase:

1. Click **Problem Management** > **Administration** > **Problem Control Phases**.

2. Use search or advanced search to find one or more records.

3. Select a target record to make your edits. You can customize these phases by adding a new phase, deleting a phase, or editing an existing phase.

4. Add or change information in the selected problem control phase record.

5. When you finish with your edits, click **Save**.

6. Click **OK**.

Delete a Problem Control phase

Applies to User Roles:

System Administrator>

As you reevaluate your organization's requirements, you may determine that an existing Problem Control phase is no longer part of the problem life cycle. In that case you can delete the Problem Control phase record.

Warning: Make sure you delete the Problem Control phase record that you intend to delete. If you delete the wrong record, you must add the record again.

To delete a Problem Control phase record:

1. Click **Problem Management** > **Administration** > **Problem Control Phases**.

2. Use search or advanced search to find one or more records.

3. Select the target record from the list to delete.

4. Click **Delete**. A confirmation message appears, which asks you to verify that you want to delete this record.

5. Confirm your intended action, as follows;
   - Click **Yes** to confirm the record deletion.
   - Click **No** to cancel the record deletion.

6. Click **OK** to exit.

Problem Management categories

A Problem Management category is an administrative tool that assigns a pre-defined workflow to a problem record. Each new category that you define gives you the opportunity to design a different workflow for a problem record.

Problem Management has a single out-of-box category for problem and known error records: ITIL. The ITIL category ensures that the problem workflow automatically conforms to the Information Technology Infrastructure Library (ITIL) workflow. If you are ITIL-compliant, do not change the default category in the Environment record.

You can define new categories with unique phases, or you can make changes to the ITIL category phases to match your business needs. First define a new category, then change the Problem Management Environment record to point to that category.

Task categories

You can also define unique task categories for the tasks that you assign from a problem record. Problem Management has a single out-of-box task category named Default. You can change it or add other task categories.

Add a Problem Management category

Applies to User Roles:

System Administrator>

You can define new Problem Management categories with unique phases, or you can make changes to the ITIL category phases to match your business requirements. First define a new category, and then change the Problem Management Environment record to point to that category.

Each new category that you define gives you the opportunity to design a different workflow for a problem record.

To add a Problem Management category:

1. Click **Problem Management** > **Administration** > **Problem Control Categories**.

2. Use search or advanced search to find one or more records. A list of problem control categories opens. You can customize these categories by adding a new category, deleting a category, or editing an existing category.

3. Open a blank search form to add a new problem control category record. When you finish adding information to create the new record, click **Add**.

4. Enter the following information to create the new problem control category record.
   - Type a category **Name**.

   - Type a category **Description**.

   - Check the **Active** box to make this category available.

   - Click **Fill** in the **Phase Name** field to select one or more phase names.

     Note: If you want to select all phases, click **Fill All** instead of selecting the phases individually.

5. Click **Add**. A message appears that confirms that the record is added.

6. Click **OK**.

7. Select the new category as the default category for new problem records.
   a. Click **System Administration** > **Ongoing Maintenance** > **Environment Records** > **Problem Management Environment**. The Problem Management Environment profile opens.

   b. Click the list in the **Default Category** field to select the new default category that you added in Problem Management administration.

     Note: If you are ITIL-compliant, make sure you leave the default category as ITIL so that the problem workflow continues to automatically conform to the ITIL workflow.

8. Click **Save**.

9. Click **OK**.

Edit a Problem Management category

Applies to User Roles:

System Administrator>

As you reevaluate your organization's requirements, you may determine that you want to make changes to a Problem Management category to update the workflow of a problem record.

To edit a Problem Management category:

1. Click **Problem Management** > **Administration** > **Problem Control Categories**.

   Note: You can also choose to edit **Error Control Categories** or **Problem Task Categories**.

2. Use search or advanced search to find one or more records.

3. Select a target record to make your edits. You can customize these categories by adding a new category, deleting a category, or editing an existing category.

4. Add or change information in the selected record.

5. When you finish with your edits, click **Save**.

6. Click **OK**.

Disable a Problem Management category

Applies to User Roles:

System Administrator>

As you reevaluate your organization's needs, you may determine that you need to disable a Problem Management category that you no longer want active.

Warning: If you disable a Problem Management category, be sure you enable another Problem Management category. The workflow for a problem record can be affected.

To disable a Problem Management category:

1. Click **Problem Management** > **Administration** > **Problem Control Categories**.

   Note: You can also choose **Error Control Categories** or **Problem Task Categories**.

2. Use search or advanced search to find one or more records.

3. Select a target record from the list to disable.

4. Clear the **Active** checkbox to disable the category.

5. Click **Save**.

6. Click **OK**.

7. Enable another Problem Management category, as the workflow for a problem record can be affected.

Delete a Problem Management category

Applies to User Roles:

System Administrator>

As you reevaluate your organization's requirements, you may determine that a Problem Management category is no longer needed and want to delete the category.

Warning: Make sure you delete the category that you intend to delete. The workflow of problem records is affected by the Problem Management category that you choose. Deleting a category affects those records.

To delete a Problem Management category:

1. Click **Problem Management** > **Administration** > **Problem Control Categories**.

   Note: You can also choose **Error Control Categories** or **Problem Task Categories**.

2. Use search or advanced search to find one or more records.

3. Select a category from the list to delete.

4. Click **Delete**. A confirmation message appears, which asks you to verify that you want to delete the selected category.

5. Click **OK** to exit.

Change the default Problem Management category

Applies to User Roles:

System Administrator>

Problem Management has a default out-of-box category (BPPM) for problems and known errors. It is important to have a default category specified in the Environment record. Problem Management requires a category value when it searches for problem or known error records. When you define multiple categories, you specify which category is to be the default for all new records.

For information on defining, or adding, new Problem Management categories, see the related topics.

Warning: The BPPM category ensures that the problem workflow automatically conforms to the ITIL workflow. If you are ITIL-compliant, the default category must remain as BPPM in the Environment record.

To change the default Problem Management category:

1. Choose a default category for new problem records in the Environment record.
    a. Click **System Administration** > **Ongoing Maintenance** > **Environment Records** > **Problem Management Environment**. The Problem Management Environment profile opens.

    b. Click the list in the **Default Category** field to change the default category.

       Warning: If you are ITIL-compliant, you need to leave the default category as BPPM so that the problem workflow continues to automatically conform to the ITIL workflow.

    c. Click **Save**.

    d. Click **OK**.

2. Modify the Change Category display options.
    a. Click **Tailoring** > **Tailoring Tools** > **Display Options**.

    b. In the **Default Label** field, type **Change Category**.

    c. Type the screen ID.
       - If you have multiple categories for problems, type **rca.view** in the **Screen ID** field.

       - If you have multiple categories for known errors, type **kne.view** in the **Screen ID** field.

     d. If you know the unique ID, type the **Unique ID** information. For example, **rca.view_
       changecategory**.

     e. Click **Search**. The record or a list of records is displayed.

     f. Remove "and false" in the **Condition** field.

     g. Click **Save**.

     h. Log out of Service Manager, and then log back in to Service Manager.

3. Enable the Change Category option in the user profile record.
     a. Click **System Administration** > **Ongoing Maintenance** > **Profiles** >
       Problem Management Profiles.

     b. Use search or advanced search to find one or more records.

     c. Select a user profile.

     d. You can modify the Change Category for problems, problem tasks, or known errors. On the
       Problems tab, select **Change Category** to enable the Change Category option for problems.

     e. Click **Save**.

     f. Click **OK**.

The default Problem Management category

Problem Management has a default out-of-box category for problems, tasks, and known errors. If you add multiple categories, there is a change Category menu option that the system administrator can enable to ensure that users can switch categories for a problem, task, or known error record.

It is also important to have a default category specified in the Environment record. Problem Management requires a category value when it searches for problem or known error records. For systems with existing rootcause records that upgrade to HP ServiceCenter 6.*x*, these records do not have any associated category. Choosing a default category ensures that an administrator will not have to manually add a category value to each legacy record.

Error Control phases

An Error Control phase is a pre-defined activity in the workflow of a known error record. The out-of-box phases enable you to follow the Information Technology Infrastructure Library (ITIL) workflow. An administrator can customize these phases, or define new categories with unique phases to meet business objectives.

Add an Error Control phase

Applies to User Roles:

System Administrator>

An Error Control phase is a predefined activity in the workflow of a known error record. The out-of-box phases enable you to follow the Information Technology Infrastructure Library (ITIL) workflow. An administrator can customize these phases or define new categories with unique phases to meet business objectives.

To add an Error Control phase:

1. Click **Problem Management** > **Administration** > **Error Control Phases**.

2. Use search or advanced search to find one or more records. A list of Error Control phases is displayed. You can customize these phases by adding a new phase, deleting a phase, or editing an existing phase.

3. Open a blank search form to add a new Known Error Control phase record. When you are done adding the information to create the new record, click **Add**.

4. Enter the following information to create the new Known Error Control phase record.
   - Type a phase **Name**.

   - Type a phase **Description**.

   - Type the name of the **Form** to associate with this phase.

   - From the **Controls** tab, type **false** to override the default value of **true** in these fields:
     - **Update**

     - **Close**

- **Reopen**

- **Open Tasks**

- **Open RFC**

○ To specify when HP Service Manager should automatically post information to the Knowledge Base, type **true** or **false** in these fields:

- **On Open**

- **On Update**

- **On Close/Next Phase**

○ Check the **Move to next phase when all related changes are closed?** box if the Error Control phase should advance to the next phase when all related changes are closed.

○ Select the **Alerts** tab to specify the name of one or more alerts that trigger when this phase occurs.

5. Click **Add**. A message displays, stating that a known error phase record has been added.

6. Click **OK**.

Edit an Error Control phase

Applies to User Roles:

System Administrator>

As you reevaluate your organization's needs, you may determine that there is an Error Control phase(s) that you want to update.

To edit an Error Control phase:

1. Click **Problem Management** > **Administration** > **Error Control Phases**.

2. Use search or advanced search to find one or more records.

3. Select a target record to make your edits. You can customize these phases by adding a new phase, deleting a phase, or editing an existing phase.

4. Add or change information in the known error phase record.

5. When you are finished with your edits, click **Save**.

6. Click **OK**.

Delete an Error Control phase

Applies to User Roles:

System Administrator>

As you reevaluate your organization's needs, you may determine that an Error Control phase you added earlier is no longer needed. In that case you can delete the record.

Warning: Make sure you are deleting the Error Control phase record you intend to delete. If you delete the wrong record, you will have to add the record again.

To delete an Error Control phase record:

1. Click **Problem Management** > **Administration** > **Error Control Phases**.

2. Use search or advanced search to find one or more records.

3. Select the target record from the list to delete.

4. Click **Delete**. A confirmation message displays, asking if you are sure you want to delete this record.

5. Confirm your intended action, as follows:
   - Click **Yes** to confirm the record deletion.

   - Click **No** to cancel deleting the record.

6. Click **OK** to exit.

Search the central Knowledge Base

Applies to User Roles:

System Administrator

To search the central Knowledge Base:

1. Click one of the following:
   - **Incident Management** > **Search Knowledgebase**.

   - **Problem Management** > **Problem Control** > **Search Knowledge Base**.

   - **Service Desk** > **Search Knowledge Base.**

2. In the **Search In** section, make sure that all the knowledge base sources are selected.

   Note: All the knowledge base sources are selected by default.

3. Type your search text in the **Search Knowledgebase** text box.

4. (Optional) Click **Advanced**, and enter your search criteria in the **Filter by...** section.

   - All of these words: Search for documents that contain every one of these words.

   - This exact phrase: Search for documents that contain this phrase exactly. These words are not expanded with a thesaurus.

   - Any of these words: Search for documents that contain any of these words.

   - None of these words: Narrow down the search to include only documents that do not contain any of these words.

5. (Optional) Narrow the search by specifying one or more fields in the Knowledge Library, Known Errors, Problems, Incidents, and Interactions sections.

6. Click **Search**.

   Service Manager displays the search results.

Add a Problem Management profile

Applies to User Roles:

System Administrator>

Problem Management profiles enable administrators to selectively assign access and security to users through the interaction of user roles and profiles. You can add Problem 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 one.

To add a new profile:

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

2. In the **Profile Name** field, type the name of the new profile.

3. Select the applicable security, forms, and problem matching options for the profile.

4. Select the **Problem Tasks** tab to enable privileges for tasks related to problems.

5. Select the **Known Errors** tab to enable privileges for options related to known errors.

6. Select the **Known Error Tasks** tab to enable privileges for tasks related to known errors.

7. Click **Add**.

8. Click **OK**.

To use an existing profile to add a new profile:

1. Click **System Administration** > **Ongoing Maintenance** > **Profiles** > **Problem 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. In the **Profile Name** field, type the new name of the profile you want to add.

5. Add or change information on the form to select the applicable security, forms, and problem matching options for this 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.

7. Click **OK**.

Update a Problem Management profile record

Applies to User Roles:

System Administrator>

As the System Administrator, you can edit Problem Management profiles to meet the needs of each assignment group. You can edit settings for known errors, problems, or problem tasks.

Note: You must set profile privileges separately for each record type.

To update a Problem Management profile record:

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

2. Use search or advanced search to find one or more records.

3. Select a record from the list.

4. Add or change information on the form.

   Note: If you select Lock on Display for a user profile, the second user to display a record in use has read-only access.

5. When you are finished with your updates, click **Save**.

6. Click **OK**.

Define Problem Management assignment groups

Applies to User Roles:

System Administrator>

When you create a new problem, Assignment Group is a required field. Problem Management assignment groups specify the Problem Coordinator and operators who are responsible for a problem. Typically, assignment groups are organized by location and expertise.

Important: You must make the same assignment groups available for problems, problem tasks, known errors, and known error tasks. If an assignment group is available for a problem, but not for a task or known error, Service Manager generates an error message when you create a new task or known error record. The user must choose an available assignment group to continue.

Note: If you do not define Problem Management assignment groups, Problem Management makes all assignment groups available when you create problem, task, or known error records.

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

2. Use search or advanced search to find one or more records.

3. Select a Problem Management security profile record to define an assignment group(s).

4. Select **Problems** tab > **Security** tab > **Rights** tab.

5. Insert the cursor in the first row of the **Assignment Groups** field, and then click **Fill**. A list of assignment group records opens.

6. Choose an assignment group. You can repeat this process until you have selected the required assignment groups for the profile.

   Note: If a profile requires that all the assignment groups be selected, click **Fill All**.

7. Repeat steps 5 and 6 for the following tabs:
   ○ **Problem tasks**

   ○ **Known Errors**

   ○ **Known Error Tasks**

8. Click **Save**.

9. Click **OK**.

Problem Management overview

You can use HP Service Manager Problem Management to identify the underlying reasons for one or more incidents, implement workarounds, identify known errors, and provide permanent solutions that minimize the effects of incidents caused by errors in the IT infrastructure and to prevent problem recurrence. Over the long term, this leads to a reduced volume of incidents as well as saved time and money. Problem Management enables you to achieve the following results:

- Identify errors in IT infrastructure, record them, track their history, find resolutions for them, and prevent recurrence

- Create automatic alerts and notifications that indicate when a problem, task, or known error opens or the owner or status changes

- Escalate problems automatically if not resolved in a timely manner

- Record resolutions and make them easily available to affected user groups

- Find opportunities for improvements and make the necessary tools easily accessible

- React to issues related to incidents

- Proactively resolve issues before incidents occur

- Reduce incidents against your service assets and configuration items

Problem Management implementation

You should implement Problem Management to run concurrently with incident Management because it relies heavily on data gathered through the incident management process. The quality of proactive Problem Management depends on monitoring service successfully and the quality of the data recorded. Issues and incidents must be identified, recorded, classified, investigated, and diagnosed by knowledgeable users. To be effective, Problem Management requires the following input:

- Well recorded incidents and issues

- Reactive analysis of incidents and issues

- Proactive analysis of the IT infrastructure

- Input from involved personnel, such as support staff, developers, vendors, trainers

- Discovered solutions

It often works well to begin with reactive analysis of incidents and issues, then continue with proactive analysis of the IT infrastructure after gathering data. Proactive Problem Management relies heavily on established service monitoring and data gathering.

Proactive and reactive Problem Management

HP Service Manager Problem Management provides a lifecycle approach to managing problems that is integrated with other modules of Service Manager, including Incident Management, Change Management, Release Management, and Knowledge Management. It consists of reactive and proactive approaches to managing problems:

- Reactive Problem Management, which is generally executed as part of Service Operation based on incident history.

- Proactive Problem Management, which is initiated in Service Operation, but generally driven as part of Continual Service Improvement.

Problem Management is the process responsible for managing the lifecycle of all problems. Incident Management and Problem Management are separate processes although they are closely linked. Incident Management focuses on the restoration of service to users, whereas Problem Management focuses on identifying and removing the causes of incidents.

Problem Management includes the activities required to diagnose the root cause of incidents and to determine the resolution to related problems. It is also responsible for ensuring that the resolution is implemented through the appropriate control procedures, especially Change Management and Release Management.

Problem Management also maintains information about problems and the appropriate workarounds and resolutions, which helps the organization to reduce the number and impact of incidents over time. In this respect, Problem Management has a strong interface with Knowledge Management, and tools such as the Known Error Database are used for both.

Problem Management provides improved service quality and reliability. The number of recurring incidents should decrease as you increase the number of permanent solutions. As your Problem Management system matures, the amount of elapsed time in the find-to-fix ratio should decrease.

Using mass update with record lists in Problem Management

Mass update enables you to select multiple records from a list of records and then to update the value in a field or several fields in the 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 displayed fields. The Mass Update template form does not display all fields in the records. For example, fields marked as read only in the data policy do not display. Mass update is available for problem records, problem task records, and known error list records. It is also available for problem queues, problem task queues, and known error queues.

When doing a mass update, you should remember that the value you enter for a particular field becomes the value for that field for all of the records you selected.

A system administrator can edit the appropriate datadict table so that a field does not appear in the list of fields displayed by the Mass Update template form. On the Data Policy form, change the Usage Type column for the field to System.

For the out-of-box systems, the ADMIN and SYSADMIN profiles provide the Mass Update capability.

Click here to show or hide links to related topics.

Related tasks

"Update multiple problem, task, or known error records" on page 105

Incident Management relationship

Problem Management and incident Management are related. Incident Management must provide effective incident classification and tracking to provide good data for Problem Management analysis.

The Knowledge Base that Problem Management builds and maintains is a solution repository for new incidents. Matching incidents to problems and known errors is the first step in spotting trends. Subsequently, trend analysis helps you remove errors before they affect a large segment of users.

Interoperability

HP Service Manager has a built-in Interoperability feature that automatically populates related problem and incident records with updated information.

Interoperability enables two or more components to exchange information within HP Service Manager. Service Manager schedules transparent updates to a table or application to reflect changes in another table or application.

The automatic process begins when you update a record that has links to another record. For example, if a problem or known error record has associated incident and change records, an update to the change record should trigger automatic updates to the problem and incident records.

When the ioevents.schedule RAD application runs, it uses copies of the original record and the changed record, then selects the ioevents record with a matching table name. If the condition in the actions array is true, the application creates a schedule record with a list of actions to occur. When the ioevents.process RAD application runs, it processes the schedule record and the associated ioaction record with the update information.

These record updates are transparent in normal processing. Background schedulers make the changes without affecting the current client/server session performance. There is no intervention required by the user to ensure all updates post correctly.

The Interoperability feature uses these tables and applications.

Component	Description	Table field	Content
ioevents table	Contains schedule records to trigger events listed in the ioactions table.	name	Action name.
		description	A brief description.
		javascript	The name of the JavaScript that runs when the action occurs.
ioactions table	Contains action or event records processed by the ioevents.schedule RAD routine. Each action record contains a JavaScript to complete the action.	filename	The table name that the event references.
		actions	An array of structures with information about interoperability actions and conditions.
		name	A field in the actions array of structures that contains the name of the interoperability action.

Component	Description	Table field	Content
		condition	A field in the actions array of structures containing the condition that triggers the action.
ioevents.schedule RAD routine	Processes the ioevents table at regular intervals to locate records with pending actions. If the event condition is true, ioevents.process processes the actions record in the ioactions table.		
ioevents.process RAD routine	Processes the actions records in the ioactions table.		
Interoperability Helpers (ScriptLibrary record)	Contains JavaScript functions to create schedule records manually.		

Creating schedule records manually

There is a ScriptLibrary record named interoperabilityHelpers. This record contains JavaScript functions that enable you to create schedule records manually. When Service Manager calls these functions, they generate the same records that ioevents.schedule creates automatically. Administrators may find it necessary to schedule updates at another time if a record to be processed is locked and processing is delayed. You can use the scheduleAction(record,action) JavaScript function to create these schedule records manually.

Advanced Interoperability tailoring

Application developers can add scripts for new actions or tailor out-of-box scripts to run differently. In all custom applications, ensure that you refer to the ioaction table record as vars.$L_file.

Change Management relationship

Problem Management and Change Management are also related. Change Management is the tool that tracks and implements a Request for Change (RFC), which permanently changes the infrastructure and prevents future incidents.

When the RFC is complete, the Problem Management process reviews the change before the known error closes.

Priority, impact, and urgency

Priority is how an individual service desk interaction, change request, incident, or problem fits into the ongoing sequence of tasks required to close the interaction, change request, incident, or problem. It also indicates how soon the work should begin. Determining the priority of a single service desk interaction, change request, incident, or problem depends on how many other defects need attention, the risk of delay, and the resources available to fix it.

Impact is the potential business vulnerability. There is no global value; it is subjective and each business must set and modify its own impact value list.

Urgency is a value that reflects how soon the defect must be resolved to avoid business consequences. It identifies how soon you must react to avert or reduce the impact of the defect on customers.

Assigning values to impact and urgency is subjective. Priority is a HP Service Manager calculation based on the values you specify for impact and urgency. As you can experience assigning impact and urgency values, you will refine your decision criteria. A service desk interaction, change request, incident, or problem that is isolated can have a low impact initially, but a high urgency because of the potential for damage if the defect becomes widespread. For example, a new computer virus is a problem that can escalate quickly.

Problem Management users

Each user must have an operator record that contains personal information. User information includes name, address, phone numbers, login name, and password for HP Service Manager. Service Manager operator records also store capability words for each user. Without an operator record, a user cannot log onto Service Manager.

Problem Management profiles

Users must have a Problem Management profile in their operator record, or use the default profile, to access Problem Management. Profiles point to the records in the rcenv table where Problem Management stores rights and privileges. For example, a Profile record specifies if the user has the right to close Problem Management records.

Profiles also store information that may affect the way Problem Management looks and behaves. For example, a profile can list a personal search form for a specific user.

Using Problem Management profiles

Each HP Service Manager user must have an operator record to log in and use Service Manager applications. The operator record defines the access rights and security settings for each user. To enable access to Problem Management:

- Select a **User Role** in the Application Profile section of the operator record that includes a Problem Management profile and the Problem Management capability word. A user role is a template of multiple application profiles and capability words in a single file that defines a business function or set of responsibilities. For example, the System Administrator user role (SYSADMIN) enables administrative access to all Service Manager applications, including Problem Management, and capability words for complete access, all privileges, and all views. Other user roles are more restrictive and may not include access to Problem Management.

- Select a **Problem Profile** in the Application Profile section of the operator record. Profiles enable you to control access, privileges, and views only for Problem Management. You can choose a standard user role but select a different Problem Management profile to customize access for a single operator.

You can also create a custom Problem Management user profile. Click **Problem Management** > **Administration** > **User Profiles**.

Profile options

Problem Management profile records contain options that enable a Problem Manager to configure access privileges for problem, task, or known error records. Options enable a user to switch categories or override the pre-defined phase progression for problem, task, or known error records. Some actions do not appear on the More Actions menu unless you enable them in the user profile record. For example, options to change phases or categories appear only if enabled.

Adding or editing Problem Management profile records

If you want to change the profile settings for a user, you can add a new profile or edit the existing profile.

Problem Management profile records have separate tabs and settings to support problem, task, and known error records. Enabling privileges for one type of record does not enable the same privilege for the other records. The administrator must set profile privileges separately for each record type.

If you select Lock on Display for a user profile, the second user to display a record in use has read-only access.

Problem Management phases

Problem Management phases are the activities in the life cycle of a problem. The out-of-box Information Technology Infrastructure Library (ITIL) workflow category matches the best practice recommendations of ITIL. The following table shows the ITIL process and the out-of-box HP Service Manager process.

ITIL activity	ITIL workflow	Service Manager phases
Problem Control	Problem Identification	Problem Identification and Classification
	Problem Classification	
	Problem Investigation	Problem Investigation and Diagnosis
	Problem Resolution	
Error Control	Error Identification	Error Assessment
	Error Assessment	
	Error Resolution	Error Closure
	Close Error	

Problem Control overview

The Problem Control objective is to return the user to full functionality as quickly as possible. Problem Control identifies the cause of the problem and delivers a solution or a workaround back to the service desk managing the incident.

Problem Control activities

HP Service Manager has an action for each ITIL-defined problem Control activity.

ITIL activity	ITIL workflow	Service Manager phases	Possible HP Service Manager actions
Problem Control	Problem Identification	Problem Identification and	Click **Problem Management** > **Problem Control** > **Create New Problem**.

ITIL activity	ITIL workflow	Service Manager phases	Possible HP Service Manager actions
	Problem Classification	Classification	or Click **Problem Management** > **Problem Control** > **Search Problems**.
	Problem Investigation	Problem Investigation and Diagnosis	Click **Problem Management** > **Problem Control** > **Search Problems**. You can: Select a problem record that is in the problem Investigation and Diagnosis phase. Click **More** or the More Actions menu and choose **Open Known Error** to create a known error record. or Select a problem record that is in the problem Investigation and Diagnosis phase. Click **More** or the More Actions menu and choose **Create Task** to create a problem task record. Click **Problem Management** > **Problem Tasks** > **Search Problem Management Tasks**.
	Problem resolution		

Tracking and monitoring problems

HP Service Manager can track individual problems and their associated activities. A complex problem can generate several tasks, potential workarounds, and can require updates to existing incidents. Problem Management tracks every aspect of a problem during these problem Control activities and can produce charts and dashboards that visually describe the status of the problem.

Service Manager applications also have an integrated alert and notification system that keeps the primary reporting resources informed about the problem. You can specify when Service Manager should send these notifications and who should receive them.

Phase 1: Problem identification and classification

Input to the problem identification activity comes from two sources, incident Management and proactive Problem Management. When an incident does not match existing problems or known errors, incident Management passes the information to problem Control. Opening a new problem record stores the relevant details in the rootcause table.

After you create the problem record, the problem classification process begins. Classification identifies relationships, urgency, assesses the impact on the customer's business service, determines priority, and assigns the problem to a specialist or support group. Problem classification is an important activity because it identifies the relationships that the problem has with other services provided, and assesses the amount of effort required to research the problem and recover from it.

Creating a problem

An administrator or user creates a problem record when one or more conditions occur:

- When you analyze incident Management data, there are recurring incidents caused by a single error.

- A problem or known error record does not exist for the identified error.

- There are incidents that do not have problem or known error record matches.

- Independent infrastructure analysis identifies a potential problem that is not yet related to a reported incident.

- A critical incident requires an immediate solution.

The problem record captures all critical data to ensure that you can track the error to a final resolution.

Identify the problem

If you analyze incident data, you may find more than one incident that describes the same error, or incidents that do not match identified problems or known errors. For example, three separate service desk interactions in a single day report a network outage. The circumstances are similar and the affected Configuration Items are the same. The three incidents generate a problem record that describes the outage.

Ongoing analysis of the infrastructure might also identify a problem that is likely to cause errors in the future. For example, a technician finds a computer virus on the mail server, or the network administrator learns that there is a powerful new virus propagated by e-mail attachments.

When you identify the problem, there is a permanent record that contains information about the affected Configuration Item (CI) and related CIs, as well as the primary and secondary assignment groups who own the problem.

Categorize the problem

Problem Management has four categorization levels that refine the problem description. Statistical analysis of problems enables you to spot trends and identify areas that need further analysis. The

categories are:

- Category

- Area

- Subarea

- Problem Type

For example, there are 10 out-of-box categories for Configuration Items. If the Category is `problem`, the Area is `failure`, and the Subarea is `job failed`, there are seven different problem Types that you can choose. This refinement provides data for trend analysis.

Classify the problem

Classification determines how much effort is necessary to restore the Configuration Items to service and return the user to full functionality. Classification is a subjective assessment based on impact, urgency, and priority. Each has a numeric assignment.

Classification	Description	Possible values
Impact	The potential business vulnerability. There is no global value; each business must set its own impact criteria.	1 – Enterprise 2 – Site/Dept 3 – Multiple Users 4 – User
Urgency	How soon the problem must be resolved to avoid business consequences. It identifies the amount of time that you have to avert or reduce the impact of the problem on customers.	1 – Critical 2 – High 3 – Average 4 – Low
Priority	How an individual problem fits into the ongoing sequence of problem resolution. Indicates when a problem can be addressed. Determining the priority of a single problem depends on how many problems need attention, the risk of delay, and the resources to fix the problem. Summarizes the assessment of urgency plus impact on customers.	1 – Critical 2 – High 3 – Average 4 – Low

Problem Management calculates priority to be the average of Impact plus Urgency. Fractional results round to the lower number. For example, if the Impact is 4 and the Urgency is 3, the Priority is 3.

Problem record information

Problem records are usually linked to incident records and contain some of the same information. As the problem moves through successive phases, you should add information about the solution,

workaround, and link to the known error record. There are two ways to create a problem record:

- Open a related problem record from an existing incident record. The required information from the incident record automatically populates the problem record.

- Open a problem record directly. You must provide all required information.

The problem record includes the following information.

Field	Required?	Description
Problem ID	Yes	System-generated problem record number with a PM prefix.
Description	Yes	Summary of the problem.
Status	No	Open, Closed, or Reopened.
Target Resolution Date	No	Date promised to the customer. All subordinate tasks to resolve the problem must have due dates that do not exceed this date.
Primary CI	No	Click **Fill** to select the primary hardware or software resource affected.
Affected CI Count	No	A system-generated count of the number of CIs affected by the outage. The count does not include the Primary CI. Affected CI count is based on the number of items entered in the Assessment section. It is calculated based on what is in the Assessment section in the Affected CIs table. The information in this field is read-only.
Category	Yes	This field is prepopulated with the value "problem".
Area	Yes	This field is prepopulated with data from an escalated incident. Service Manager displays different lists of areas depending on the category you selected.
Subarea	Yes	This field is prepopulated with data from an escalated incident. Service Manager displays different lists of subareas depending on the area you selected.
Related incident Count	No	Problem Management calculates the number of related incidents. The information in this field is read-only.
Impact	Yes	A numeric value that measures the potential business vulnerability of the customer. It may reflect the effect on related agreements or expected service levels. Click the drop-down list to choose one of these values: 1 – Enterprise 2 – Site/Dept 3 – Multiple Users 4 – User

Field	Required?	Description
Urgency	No	A numeric value that measures how soon the problem must be resolved to avoid business consequences. Click the drop-down list to choose one of these values: 1 – Critical 2 – High 3 – Average 4 – Low
Priority	No	How soon the problem needs resolution, based on impact and urgency. The values are: 1 – Critical 2 – High 3 – Average 4 – Low The information in this field is read-only. Problem Management calculates Priority based on the Impact and Urgency values that you choose.
Root Cause Description	Yes	Detailed description of the problem.
Assignment Group	Yes	The group tasked with resolving the problem.
Problem Coordinator	Yes	Click **Fill** to select a problem coordinator.
Attachments section	No	Click **Add File...** to attach a document to the problem.
Related Records section	No	HP Service Manager automatically populates the table entry with related record information.
Workflow section	No	Graphic representation of the Problem Management workflow for the current record.

Note: To open a problem record, your operator record security profile must include the Open privilege. The SysAdmin capability word includes this privilege.

Searching for a Configuration Item

You cannot proceed to the Error Control phase from the problem Control phase unless you specify a Configuration Item (CI) in the problem record. If you omit the CI initially, Problem Management prompts you for it when you attempt to open a known error record. Problem Management transfers the primary CI information in the problem record to the known error record. If the CI that caused the issue is an

associated CI, you must make it the primary CI in the problem record, or edit the CI information in the known error record.

When you search for a CI from a problem form, There are three check boxes that add criteria to the query: CI Down, Critical CI, and Pending change. HP Service Manager logical fields (check boxes) can have four values: true, false, null, and unknown. If you do not select a checkbox, it has a null value and any query ignores it. If you select the checkbox, it has a value of true. If you clear the checkbox, it has a value of false.

When you search for a CI, ensure that you consider these possible checkbox values when you construct your query.

Problems with multiple Configuration Items

If a problem affects more than one Configuration Item (CI), you must repeat the steps in the Investigation and Diagnosis phase for each CI. Problem Management enables you to open a separate task for each CI and assign an owner to complete the Investigation and Diagnosis activities for the CI. As you open each task, Problem Management automatically links the individual task record to the main problem record.

Advancing a problem to the next phase

HP Service Manager identifies the current phase for any problem record in the title of the form. For example, when you create a problem record using the ITIL category, the form label is:

Problem Control - problem Identification and Classification

Each time you advance to a new phase, the form label changes to reflect the new phase name. The form fields change as you need to record additional information for the phase. If necessary, press Ctrl+H to view help for each field.

When you complete any phase within Problem Control (or Error Control), you can advance the problem to the next logical phase within the category. If you follow the out-of-box workflow, you can close a problem only when it is in the last phase of problem Control. If you have a customized problem Control and Error Control progression, the best practice is to complete each phase before you advance to the next one.

To advance to the next phase, click **Next Phase** on the toolbar.

To return to the last phase, click **Prior Phase** on the toolbar.

When you complete the last phase in Problem Control, you must open a Known Error record to continue advancing through Error Control.

Phase 2: Problem investigation and diagnosis

When the specialist or support group formally accepts responsibility for the problem, the problem investigation process begins. Problem investigation examines the symptoms of the problem to identify the root cause. A correct analysis of the root cause enables you to identify the solution correctly during the Error Control process. It may be necessary to offer a workaround to restore full or partial service to the customer while you wait for a permanent solution.

Documenting the root cause

The root cause is the reason why the problem exists. Identifying and documenting the root cause leads to a workaround and known error status. Identifying the root cause also formally stores this information in the database for future reference. The following table shows a sample problem and different root causes that affect the workaround and final solution.

Problem	Root Cause
HP Service Manager upgrade fails	User error. The user did not uninstall the previous version first.
HP Service Manager upgrade fails	Training required. The user did not know that the client version must be the same as the server version.
HP Service Manager upgrade fails	Configuration Item error. The operating system is not supported.

Problem resolution and closure

Problem resolution and closure is the final activity in Problem Control. The objective is to test the root cause candidate. Then you can reclassify the problem as a known error. You might also open a Request for Change (RFC) during this activity.

Due dates

Problem Management uses date fields to set expectations for problem resolution.

Type of record	Date field name	Comments
Problem	Expected Resolution Date	You must specify a future date.

Type of record	Date field name	Comments
Task	Due Date	This date must occur on or before the expected resolution date for the problem unless the problem resolution date has already expired. The task owner cannot edit this date and time after initial entry.
	Expected Resolution Date	Read-only. This field has a value only if the parent problem record has an expected resolution date specified before you create the task. You cannot adjust the expected resolution date of the problem to fit the task.
Known error	Expected Resolution Date	This time and date are not dependent on the expected resolution date of the problem record.

Notes:

1. The default time (00:00:00) is midnight of the date specified. You may want to edit it to fall within daytime business hours.

2. Problem Management allows you to open a task for a problem record with an expired resolution date when necessary. The notification system continues to notify you that the resolution date of the problem with a status of past due is expired. You must close the new task before you can close the problem record with the expired resolution date.

Error Control overview

The Error Control objective is to effect permanent changes to Configuration Items (CIs) with known errors. Making permanent changes reduces the number of current and prospective incidents. Integrated HP Service Manager Error Control and Change Management processes enable you to track the entire workflow and update all affected records automatically.

Error Control activities

HP Service Manager has an appropriate action for each Error Control activity.

ITIL activity	ITIL workflow	Service Manager phases	Possible Service Manager actions
Error Control	Error Assessment	Known Error Logging and Categorization	Click **Problem Management** > **Error Control** > **Search Known Errors**. For a known error record that is in the Known Error Logging and Categorization phase, you can elaborate the

ITIL activity	ITIL workflow	Service Manager phases	Possible Service Manager actions
			description of the underlying cause and possible workaround (if identified).
	Error Identification	Known Error Investigation	Click **Problem Management** > **Error Control** > **Search Known Errors**. For a known error record that is in the Known Error Investigation phase, you can define a temporary fix or permanent solution for the known error. Different solution alternatives can be evaluated until a definitive solution can be proposed to the Problem Manager.
	Error Resolution	Known Error Solution Acceptance	Click **Problem Management** > **Error Control** > **Search Known Errors**. For a known error record that is in the Known Error Solution Acceptance phase, you can create a Request for Change record. To do so, select the known error record, click **More** or the More Actions icon and choose **Open Related Change**.
	Close Error	Known Error Resolution	Click **Problem Management** > **Error Control** > **Search Known Errors**. You can select a known error record in the Known Error Resolution phase to record the resolution and close the known error.

Tracking and monitoring errors

The team that identified the root cause is not necessarily the team who will locate and apply the resolution. The first stage of Error Control is important for a smooth hand off of the error. The team that tracks the error keeps sources on the primary reporting matrix updated as necessary.

The steps in tracking and monitoring errors are:

- Obtain the error status.

- Reassess the error status.

- Update primary reporting matrix about the error status.

- Track any relevant data and ensure that the problem, known error, incident, and change records are all updated.

HP Service Manager posts updates to affected records automatically.

Phase 1: Error assessment

This phase is critical because it is where technical experts study the error to understand it and develop a solution.

Although a known error is the usual result of completing the last phase of problem Control, an internal organization, such as Development or Customer Support can also identify known errors. For example, Development might notice a known error when performing current or new development activities such as upgrades, enhancements, or technology acquisitions. In this case, Development would Create a new problem record and verify the error during the Error assessment phase.

A permanent solution may require a change to the affected Configuration Item (CI). If this is the case, the error assessment team can open a Request for Change (RFC). HP Service Manager enables you to open an RFC from the known error record. It also updates all affected records automatically.

Known errors

Known errors are related records that link to the parent problem record, or to change records that also relate to the parent problem record. Problem records reside in the rootcause table; known error records reside in the knownerror and rootcause tables.

Creating a known error record has certain restrictions:

- To open a known error from a problem record, a Problem Management administrator must enable the option in *both* the phase record and the user profile record.

- You cannot open a task record from a known error record.

- The problem record must be in the Investigation phase if you follow the out-of-box ITIL workflow.

- If you open a known error record from a problem record, Problem Management copies the Description field from the problem record.

Error identification

The first phase of Error Control captures all information about the known error. A known error is the usual result of completing the last phase of problem Control.

An internal organization, such as Development or Customer Support may identify known errors, but the primary record must be the problem record, which becomes the parent of the known error record. For example, Development might notice a known error when performing current or new development

activities such as upgrades, enhancements, or technology acquisitions. The first step is to open the problem record, then step through the problem Control phases before opening an associated known error record. The known error is verified during the Error identification phase.

When a known error evolves from problem Control phases, the known error has an identified root cause and a workaround, or an explanation of why root cause and workaround information does not apply.

Change requests

Error control often initiates a Request for Change (RFC) to implement a solution. The solution may require a technical change, revised process, training, or other organizational change. When you create an RFC, it becomes the responsibility of change Management. The priority of the RFC depends on the impact of the problem on business activities.

As long as Known error resolution is pending, the status of the RFC must be reported back to Problem Management and recorded in the known error record. The known error cannot close until the RFC closes.

Phase 2: Close known error record

Closing the record is the last Error Control activity and the last Problem Management activity. Do not close the record until you ensure that the error is resolved, and the Problem Management process functioned correctly.

You cannot close a known error record if there are any related Request for Change (RFC) records open.

Error resolution

The input to Error resolution is from the Error assessment phase, which produces a solution. This phase applies the solution to the known error through a Request for Change (RFC), submitted to change Management. The Change Management process applies the solution to the Configuration Item (CI) to eliminate the known error.

You must verify that the Request for Change (RFC) is complete, removes the error in the infrastructure, and does not introduce a new error before you can close the known error record.

When does a known error close?

Closing the known error record depends on these conditions:

- All related Request for Change (RFC) records must be closed.

- The Known Error Details section must have information about a Solution, Root Cause, and Workaround before you can close the known error record.

- The record must be in the Error Closure phase.

Using Problem Management

Users and administrators must know how to complete certain tasks that are associated with Problem Management. For example, you need to be familiar with the Knowledge Base, be able to find problem and known error records, and create reminders. For more information about working in Problem Management, see the related topics.

Problem Management workflow section

Problem Management problem and known error records have a Workflow section. The following list contains tips for navigating through a workflow and extracting the information you need.

- Click in the Workflow section to view a graphic representation of the workflow for the current problem or known error.

- The workflow begins with a green light and ends with a red light. Phases appear as successive steps in the workflow.

- There is a workflow connector from one phase to another. The connector is a flashing red line when it exits from a completed phase. The connector is a black solid line when it exits from an incomplete phase.

- To view all tasks associated with a problem, click the plus sign (+) in Phase 2, problem Investigation and Diagnosis, in the problem Control workflow.

- Click any task to view the task record.

Note: To successfully use the workflow features of Service Manager, ensure you have Java 1.5.0 or higher installed.

Problem Management searches

Problem Management enables you to search for problem records and display them in a list. You can also save these queries as views. The search form fields enable you to narrow the search parameters.

There are three types of searches available:

- Use a **Basic Search** to look for records using key search criteria.

- Use an **Advanced Search** to find records opened, updated, or closed within a certain time frame.

- Use an **IR Search** to locate specific text within records.

Posting to the central Knowledge Base

Administrators can enable automatic or manual posting to the Knowledge Base by setting options in the environment record, phase record, or user profile record.

Type of posting	Required action	Setting	Comments
Automatic	Click **System Administration** > **Ongoing Maintenance** > **Environment Records** > **Problem Management Environment**.	Select **Automatically Post to Knowledge Management**.	Required for automatic posting.
	Click **Problem Management** > **Administration** > **Problem Control Phases**.	Specify **true** in one or more fields in the **Post problem Information to Knowledgebase** section.	Specifies additional filtering criteria for automatic posting from problem records.
	Click **Problem Management** > **Administration** > **Error Control Phases**.	Specify **true** in one or more fields in the **Post Known Error Information to Knowledgebase** section.	Specifies additional filtering criteria for automatic posting from known error records.
Manual	Click **System Administration** > **Ongoing Maintenance** > **Profiles** > **Problem Management Profiles**	Select **Post to Knowledge**.	Required for manual posting.

Note: You can enable either automatic or manual posting, or both.

Searching the central Knowledge Base

The central Knowledge Base is the default database for any knowledge search in HP Service Manager. You can search it using the standard Service Manager Knowledge application, or you can choose other Knowledge Bases. However, if you choose the global Knowledge Base, you are searching all knowledge resources at once.

Problem Management assignment groups

When you Create a new problem, Assignment Group is a required field. The assignment group that you specify is a list of users who are responsible for a problem.

Administrators define the available assignment groups for problems, tasks, and known errors. It is important to make the same assignment groups available for problems, tasks, and errors. If an assignment group is available for a problem, but not for a task or known error, HP Service Manager generates an error message when you create a new task or known error record. The user must choose an available assignment group to continue.

To define Problem Management assignment groups, add a list of available groups to the Problem Management Security Profile form. If you do not define Problem Management assignment groups, Problem Management makes all assignment groups available when you create problem, task, or known error records.

Problem Management Macro List Editor

Macros are actions, driven by predefined conditions, that execute when Problem Management saves a record in the database. Macro actions are associated with files and reflect certain states in the records of those files.

You can create, edit, and delete macros from the Tailoring tools.

Problem Management tables

Problem Management uses the following tables.

Record type	Table	Record prefix
Problem Management record	rootcause	PM

Record type	Table	Record prefix
Problem Management task record	rootcausetask	PM (Task records append a second sequential number to the parent task number)
Problem Control category record	rootcausecat	none
Problem Control phase record	rootcausephase	none
Problem Control task category record	rootcausetaskcat	none
Known error record	knownerror	KE
Error Control category record	knownerrorcat	none
Error Control phase record	knownerrorphase	none
Incident record	probsummary	IM
Request for Change (RFC) record	cm3r	C

Click **System Definition** > **Tables** > **_anytablename_** to see associated fields, keys, links, forms, triggers, records.

Click here to show or hide links to related topics.

Related concepts

"Problem Management administration" on page 104

Alerts

"Problem Management Environment record" on page 107

"Problem Management categories" on page 114

"Problem Control phases" on page 111

"Error Control phases" on page 120

Status progression

Views and favorites

"Problem Management users" on page 132

"Problem Management profiles" on page 132

"Problem Management assignment groups" on the previous page

"Problem Management Macro List Editor" on the previous page

"Problem Management link records" below

"Problem Management and Service Level Management" on the next page

Problem Management link records

Problem Management uses the following link records to link data:

- knownerror

- PMscrelate.problem.task

- rootcause

- rootcausetask

- screlate.rootcause.knownerror

- screlate.rootcausetask.knownerror

Problem Management and Service Level Management

Problem Management supports the selection of more than one applicable SLA for a problem record. When you open a problem, you can choose a Customer SLA for the contact, a Customer SLA for the contact and one or more applicable Service SLAs for the contact's subscriptions to a service, or no SLAs at all. Service SLAs only apply if the problem references a Business Service, the contact has a subscription to the service, and the subscription references an SLA. The following describes the system's process for adding SLAs to a problem record.

- If one SLA is associated with the problem based on the contact, the Customer SLA is added to the problem.

- If the contact has an Individual Subscription for the CI, the Service SLA from that subscription is added to the problem.

- If the contact has a Department Subscription for the CI, the Service SLA from that subscription is added to the problem.

- If the contact has neither, then no Service SLA is added to the problem.

The SLAs should contain all Service Level Targets (SLTs) that define the business rules for all process and service metrics. You can choose as many SLTs as necessary to describe your process and service commitment. If necessary, you can add more SLTs that meet your criteria.

When you view the new record, the SLA section lists the Process Time Objectives that apply to the problem.

See the related topics to view the definitions for Customer SLA and Service SLA.

Escalation and notification

HP Service Manager can escalate Problems based on thresholds defined in the Problem Management module or thresholds associated with SLAs, which can be applied to Problem records. Alerting, escalation, reporting, and breach tracking are part of the integration between the Problem Management and Service Level Management modules.

Historical problem records

You can search for and access historical Problem and Known Error records through the Problem Management module during the investigation process.

Incident trending for problem identification

HP Service Managerfacilitates incident trending for pro-active problem identification. Problem Managers can use charts and dashboards to view historical interactions or incident data.

The charts and dashboards allow sorting by certain incident characteristics which demonstrate relatedness (such as incident rates, related CI, category/area/subarea, and affected service). Therefore, the analyst is able to study the incidents types that occur on certain IT infrastructure or services, to measure both the frequency of those incidents over time and the rate of change (increase/decrease), to pinpoint which CIs/Services experience certain types of issues more frequently, etc.

With this information, Problem Managers can analyze the patterns and trends to draw hypotheses for the incidents and targets. More targeted queries as a result of initial analysis can support Total Quality Control (TQC) methodology that helps progress the investigation from identifying symptoms to uncovering root causes to prevent future incidents.

For example, reporting on historical incident data and determining an increasing trend of downtime incidents related to a particular CI might indicate the need for maintenance or replacement of that CI. An increasing trend of degraded-response-time incidents against a given service might be traced back to a capacity inadequacy on an infrastructure component of that service.

In addition, key information such as Related Incident Counts is associated with a Problem Record. This information can be consolidated in reports showing time-line related trends.

Integration

HP Service ManagerProblem Management is fully integrated with other Service Managermodules such as Change Management, Incident Management, Configuration Management, and Knowledge Management.

Integration: Change Management

HP Service ManagerProblem Management and Change Management modules are fully integrated, so Known Error records can be linked to Change requests. When a Change request is created from a Known Error record, the link is established automatically. Links between the existing records can also be created manually. Links are referenced in each linked record.

Integration: CMDB

Each Problem Record includes links to all related/affected CIs. The user can drill down into any CI record to view its CMDB definition (as appropriate for the user based on user roles and security restrictions). Important information such as CI relationship and impact analysis is greatly aided by this integration.

Integration: Configuration Management

Each Problem record references the primary CI that is the subject of the Problem record, as well as other affected CI records.

Authorized users can access CI records from the Problem record to gather additional information on the subject CIs. Authorized users can also directly access the Configuration Management module (the HP Service Manager CMDB) to gather Problem Management related information through direct record access or queries.

Integration: Incident Management

HP Service Managerprovides separate modules for creating and tracking Incident records and Problem records, but you can link the records from these modules. You can open Problem records from Incident records (and vice versa), and Service Manager automatically copies all relevant information from the source record to the target record and links the records. You can also link the records manually, or link

multiple records from one module to multiple records from the other module. Links between records are referenced in linked record.

Integration: Knowledge Management

Problem information can be promoted to HP Service Manager Knowledge Management module; when you search for potential resolutions in Knowledge Management, you can find applicable workarounds from Problem records.

Service Manager Knowledge Management module is a fully integrated solution for knowledge-management support. It supports Knowledge-Centered Support (KCS) standards and guidelines by providing a natural language search engine and rich-text authoring tools that enable you to search, update, and author knowledge articles.

Knowledge Management integrates with Interaction, Incident, and Problem records so that you are able to search for and use knowledge from the existing Incidents or Problems while attempting to resolve a new Incident or Problem, or to create new knowledge. You can also use the rich-text editor to include image files and document files of various types as attachments that can be linked to other documents or included as part of an existing document.

Known Error

There are two main phases to the Problem Management process: Problem Control and Error Control. In the first phase, the Problem Manager or technician assigned to the process studies infrastructure trends and analyzes services and CIs to determine possible failure points. In the second phase, the analyst documents the findings related to an identified problem, and initiates a corrective course of action that may include: documenting a workaround; recording a Known Error condition pending future action; or creating a Request for Change. The "recording of a Known Error condition pending future action" could be the result of a defect that requires resolution from a third party such as a software patch or firmware upgrade.

Problems and Known Errors can be opened against multiple environments, including development, testing, and production environments, by using Category/Area/Sub-Area and/or CI names that identify the environment following the same general process.

Known Errors are visible in linked Incident records. Similar Known Errors can be searched for during Incident creation. Known Errors are also visible in related Change records. Known Errors are indexed by the search engine and presented in knowledge search results.

Known Error found in the development environment

Known Error records can be opened directly to show the known errors found in the development environment. This is a useful activity as Known Error records are automatically used to support other processes including Incident and Knowledge Management. Automatic searches and matching of problem descriptions in an Incident creation or knowledge search can highlight Known Error records for the user.

Problem record data model

Problem Management enables you to track different types of information related to a problem, such as categorization, prioritization, description, contact information, and so on.

Assignment

HP Service Manager Problem Management routes and assigns records to predefined users and user groups based on Category of the problem, or the skill set, location, and availability (these routing rules require configuration). Problem records can be assigned to individuals or groups. The status or Problem records can also be viewed through service queues and the reporting applications.

Categorization

Each problem record includes tiered categorization that identifies the problem and can associate it with a specific service, as well as with a category/area/sub-area.

In addition, each Problem is associated with one or more affected CIs that are linked via their own relationship tracking to one or more affected Services. The user can visualize the list of impacted CIs and Services as they relate to the Problem.

Click here to show or hide links to related topics.

Related concepts

Related tasks

Closure

Problem closure activities trigger the prompting of a closure code that identifies the type of activity category associated with the ability to close the Problem Record.

The possible values of Cause Code and Resolution are:

- Automatically Closed

- Not Reproducible

- Out of Scope

- Request Rejected

- Solved by Change/Service Request

- Solved by User Instruction

- Solved by Workaround

- Unable to solve

- Withdrawn by User

Contact information

The contact for the problem, the Problem Coordinator, is a field in the Problem record with a link to the Contact record. The Contact record for that Problem Coordinator contains all his/her contact information, including name and preferred method of contact.

Click on the magnifying glass icon next to the **Problem Coordinator** field to execute a Find action, which links to the Contact record. The path of the linkage is from Problem-Coordinator to the Operator table, which then links to the Contact table.

Problem description

Each Problem record includes a field for providing detailed descriptive information recording the symptoms and other relevant information.

Click here to show or hide links to related topics.

Related tasks

Problem lifecycle

The HP Service Manager Problem Management module implements ITIL processes for problem management. The module helps ensure that standardized methods and procedures are used for all problem investigation activities. Separate workflows are provided for the Problem and Known Error processes. By its out-of-box workflows, Problem Management enables personnel and management to:

- Create Problem and Known Error records, assigning a unique number against which all activities can be tracked and reported

- Within a Problem and Known Error record, identify the tasks required to determine the root cause of the Problem or resolve the Known Error

- Follow, track, and query Problem and Known Error records through their entire lifecycle. Workflow phases identify the logical sequence of the repeatable steps within the problem management lifecycle. There is also a visualization of the current, previous, and potential future phases of the Problem or Known Error.

Problem resolution

In addition to storing analysis activities in the Activity list, the Problem Record also stores specific resolution and recommendation instructions in their own fields which can be used to populate useful, related Knowledge Management database entries. The date/time stamps of the resolution activities are also stored.

Problem status

Each Problem Record includes a Status field that is populated with an appropriate pre-defined list of lifecycle states.

Source of problem records

Each Problem record stores the information about the initial originator/creator of the information. A problem will often be created from one or more related incidents. These can be seen in the related incidents section of the problem form.

When the source of the related incident(s) to a problem is a person, then basic information-such as whether the Incident was opened through the self-service interface, the details of the submitter, the Incident trigger, and location of the issue-is shown in the Interaction record linked to the Incident record.

When the source of the related incident(s) to a problem is an event trigger, then the incident record contains that information in the Title and Description fields. These fields reference the source event displayed in the External ID field of the Event Browser in HP Operations Manager.

Assignment

HP Service Manager Problem Management routes and assigns records to predefined users and user groups based on Category of the problem, or the skill set, location, and availability (these routing rules require configuration). Problem records can be assigned to individuals or groups. The status or Problem records can also be viewed through service queues and the reporting applications.

Problem prioritization

Problem records include fields to capture impact and urgency codes. Urgency can be automatically or manually populated based on the Category of the Problem record. Impact is populated manually or could be related to other information in the problem record such as the related service or CIs. HP Service Manageruses these values to automatically derive the priority of the record.

Problem prioritization based on associated records

Using the related records function in HP Service Manager, operators may increase the severity of a Problem. Service Manager can also be configured to increase the severity or impact rating of a Problem record based on the number of linked Incident records or the number of the affected end users .

Problem records creation

HP Service Manager provides various mechanisms for creating Problem records:

- Problem records can be created manually from a blank Problem screen.

- Problem records can be created manually from an incident to support a reactive problem activity.

- Problem records can be created automatically based on a configured event criteria.

- When Incident records are opened, automatic matching/Problem creation can also be triggered.

Problem record identifier

HP Service Manager tracks problems in individual Problem Record, and each is assigned with its own unique identifier. The default is to automatically assign a unique number using a format such as PM<XXX>. This helps the user not only identify the record uniquely, but also know that the record comes from Problem Management.

Problem workarounds

Problem solutions and workarounds can be communicated to the service desk staff in two ways.

- System administrators can configure a help desk operator's interface to automatically check for potentially similar records based on similar Known Errors, root causes, Incident records, Incident record duplicates on a device, or Incident record duplicates on parents.

- When a user creates an Incident record, HP Service Manager prompts the user with a list of similar Problem records, which the user can access for workaround information. In addition, Problem information can be promoted to the Service Manager Knowledge Management module; when users search for potential resolutions in Knowledge Management, applicable workarounds from Problem records are presented.

Logs of problem record updates

Each problem record includes the date/time/activity logging that describes any action taken on the record and the lifecycle activity that it is related to. The log is maintained automatically, and the user is

prompted to enter descriptive information when taking an action so that the details of the action can be properly logged.

Problem diagnostic information

Each Problem record includes an activity audit trail that stores the date, time, and text for each root cause analysis activity. This information is shown within an "Activities" section in the Problem record.

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Feedback on Problem Management help topics for printing (Service Manager 9.41)

Just add your feedback to the email and click send.

If no email client is available, copy the information above to a new message in a web mail client, and send your feedback to ovdoc-ITSM@hp.com.

We appreciate your feedback!