OPTIMIZE

MERCURY BUSINESS AVAILABILITY CENTER™

Using Problem Management

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Mercury Business Availability Center

Using Problem Management

Version 6.5

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Mercury Business Availability Center, Version 6.5
Using Problem Management

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Part I

Problem Management Tasks

1

Problem Management Task Flows

This section describes the processes for the main task flows in Problem Management and gives examples of them.

Deploy Problem Management

This section includes the process for the task mentioned above and provides an example.

Process

The steps below describe the process used to deploy Problem Management.

Install the Problem Management monitors template in SiteScope

Install the Problem Management monitors template to incorporate the SiteScope monitors used by Problem Management for running diagnostic monitors on suspect CIs. For details, see "Installing the SiteScope Monitor Templates" on page 81.

Copy the diagnostic monitor SQL script files to SiteScope

Copy the SQL scripts used by diagnostic monitors, to SiteScope machines in your system. For details, see "Installing Diagnostic Monitor SQL Scripts" on page 82.

Configure the Problem Management on-demand monitors XML file

Add or change monitor settings to adapt the diagnostic monitors for your needs. For details on adding and changing monitors, see "Customizing the Diagnostic Monitors XML File" on page 83.

Configure Problem Management infrastructure settings

Configure Problem Management infrastructure settings to customize it for your system. For details, see "Configuration Settings" on page 87.

For an example of the process of deploying Problem Management, see "Example" on page 5.

Other Task Flows

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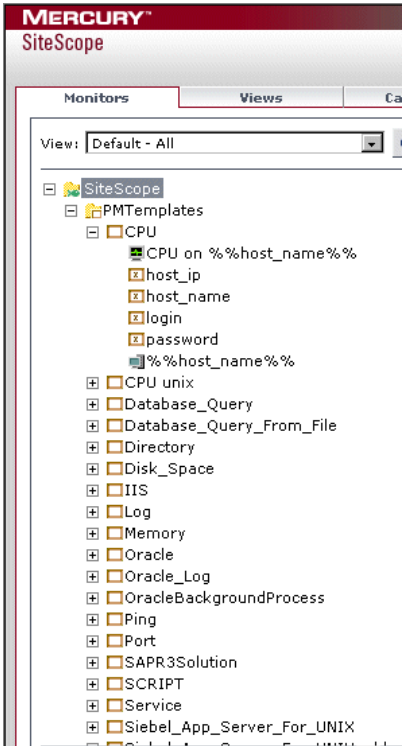
Example

Install the Problem Management monitors template in SiteScope

The **PMTemplates** file was copied to the **<SiteScope root directory>\SiteScope\persistency\import** directory of a SiteScope machine, and the monitor templates were automatically imported by SiteScope.

The templates, monitors, and variables can now be viewed and managed directly on the SiteScope machine.



For details on installing the Problem Management monitors template in SiteScope, see “Installing the SiteScope Monitor Templates” on page 81.

Copy the diagnostic monitor SQL script files to SiteScope

The SQL script files used by diagnostic monitors were copied to the <**SiteScope root directory**>**PMQuery**\ directory on each of the SiteScope machines in the system, used to run Problem Management diagnostic monitors.

For details on the SQL script files, see "Installing Diagnostic Monitor SQL Scripts" on page 82.

Configure the Problem Management on-demand monitors XML file

In the following example, the weight of the Memory monitor in the <**Mercury Business Availability Center root directory**>**conf\pm\on_demand_monitoring.xml** file is changed from two to five.

```
<monitor id="Memory" template="Memory"
display_name="pm.on.demand.monitor.memory"
executor_id="SiteScope_Executor" weight="5">
        <monitor_variable name="host_ip" default_value=""/>
        <monitor_variable name="host_name" default_value=""/>
        <monitor_variable name="login" default_value=""/>
        <monitor_variable name="password" default_value=""/>
    </monitor>
```

If the Memory monitor is run as part of a diagnostic monitor for a problem and fails, the increased weight will have greater impact on the success rate of the diagnostic monitor as displayed in the Main Suspects screen.

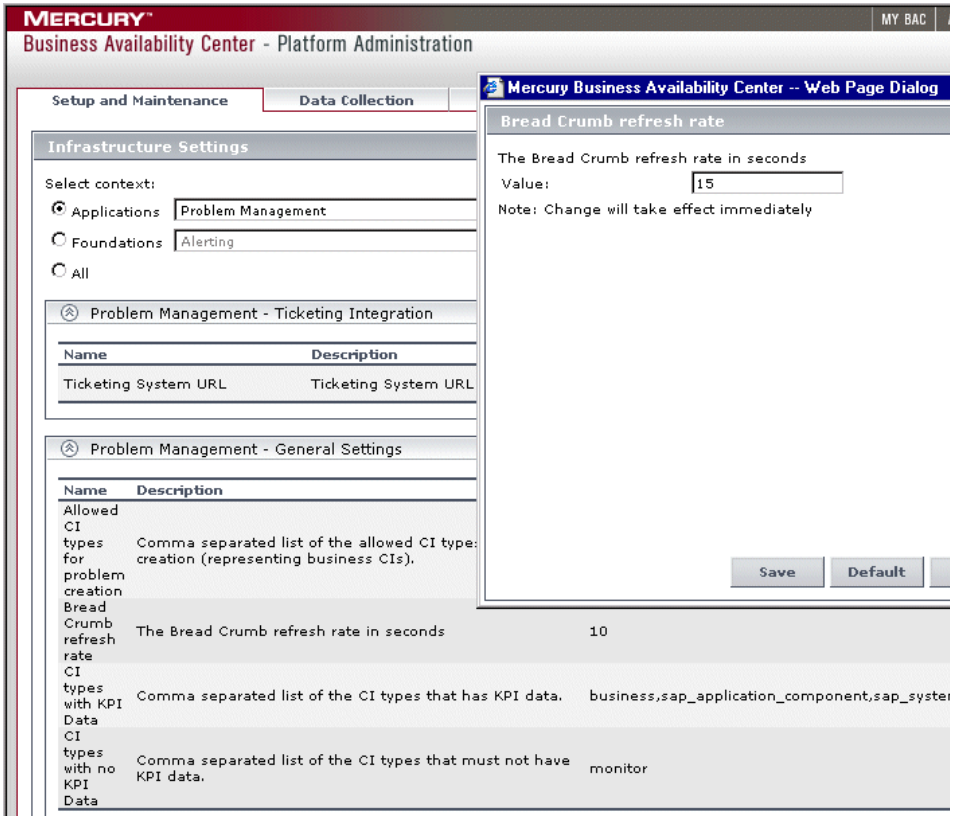
For details on adding and changing monitors, see "Customizing the Diagnostic Monitors XML File" on page 83.

For details on the diagnostic monitor success rate, see "Weighting and Diagnostic Monitors Success Ratio" on page 37.

For details on the Main Suspects screen, see "Main Suspects Screen" on page 62.

Configure Problem Management infrastructure settings

In the example below, the Infrastructure Settings tables for Problem Management have been accessed. The refresh rate for the Problem Management bread crumbs (that is, the top line of the main Problem Isolation screen, showing the name, type and status of the CI on which the problem was opened, as well as the KPI type) is being changed from 10 to 15 seconds.



For details on changing Infrastructure Settings for Problem Management, see “Configuration Settings” on page 87.

For details on the main Problem Isolation screen, see “Problem Isolation Main Screen” on page 50.

For the process of deploying Problem Management, see “Process” on page 4.

Other Task Flows

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“Isolate a Problem” on page 15

Manage a Problem

This section includes the process for the task mentioned above and provides an example.

Process

The steps below describe the process used to manage a problem.

Open the problem

In Dashboard, right-click the CI on which you want to open the problem and select **Problem Management** > **Create New Problem** in the menu. The New Problem dialog box opens. Enter the details of the problem. For details, see "New Problem Dialog Box" on page 40.

Note: A problem can only be opened on CIs of specific types, that are configured in the Problem Management Infrastructure settings. For the default list of CI types on which problems can be opened, refer to the **Allowed CI types for problem creation** setting in "Configuration Settings" on page 87.

Update the problem

Select **Applications** > **Problem Management** to open the Problems list. In the list of problems, click the problem you want to update. Update the relevant details in the **Problem Properties** pane. For details, see "Problem List Screen" on page 42.

Close the problem

Select **Applications** > **Problem Management** to open the Problems list. In the list of problems, click the problem you want to close. In the **Problem Properties** pane update any relevant details, and change the problem status to **Closed**. For details, see "Problem List Screen" on page 42.

For an example of the process of managing a problem, see "Example" on page 12.

Other Task Flows

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"Isolate a Problem" on page 15

Example

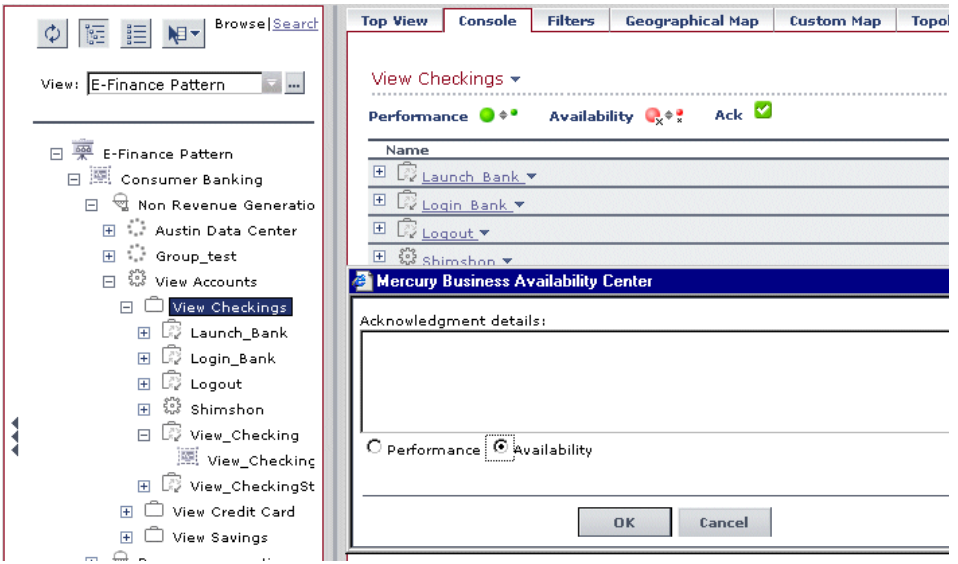
Example of the process used to manage a problem.

Open the problem

In Dashboard, the **Availability** KPI for the **View Checkings** CI has a status of critical, and you decide to open a new problem on it.

You right-click the View Checkings CI in the tree and select **Problem Management** > **Create New Problem**. The dialog box for creating a new problem opens.

The KPIs for the CI are displayed at the bottom of the dialog box, and you select **Availability**. You do not wish to enter any acknowledgement details at this time.

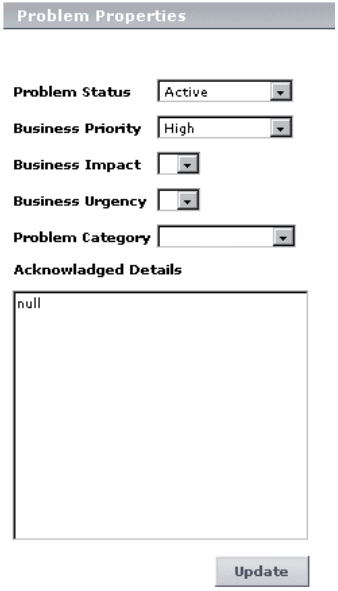


After clicking **OK**, the problem is created in Problem Management and appears in the **Problem List**.

Update the problem

You decide to change the business priority of the problem from the default of medium, to high.

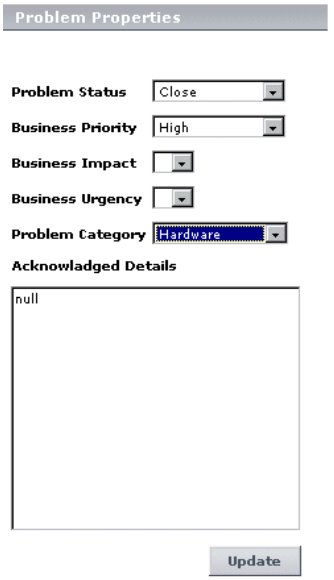
You highlight the problem in the **Problem List**, and in the **Problem Properties** pane, select **High** from the dropdown list for the **Business Priority** field. To save the change, you click **Update**.



Close the problem

After you have used Problem Isolation to determine the root cause of the problem, and have rectified the problem, you update and close the problem in the **Problem Properties** pane.

You wish to change the problem category, and select **Hardware** from the dropdown list for the **Problem Category** field. You then select **Closed** from the dropdown list for the **Problem Status** field, and click **Update** to save your changes. The problem is now closed.



For the process of managing a problem, see “Process” on page 10.

Other Task Flows

“Deploy Problem Management” on page 3

“Isolate a Problem” on page 15

Isolate a Problem

This section includes the process for the task mentioned above and provides an example.

Process

The steps below describe the process used to isolate a problem and find its root cause.

View the Problem Summary

View the Problem Summary page, which displays the KPIs Over Time report. From the KPIs Over Time report you can learn more about the nature of the problem, such as whether it is steady or intermittent, and for how long the CI has had a problem status. You can also compare all of the problematic CI's KPIs, to see any correlation between them that may help you better understand the problem.

Generate relevant reports

Generate Mercury Business Availability Center reports relevant to the CI on which the problem has been opened, to assist you in understanding possible causes of the problem.

The available reports provide you with tools to analyze in which layer (network or server) the problem resides, as well as some more advanced tools to analyze the possible cause of the problem, using Mercury Business Availability Center's monitor capabilities.

For details on reports, see "Problem Isolation Reports" on page 35.

For problems residing in the server layer, you can further diagnose the server hosts and application servers, by running diagnostic monitors and viewing the Main Suspects page.

Run diagnostic monitors

For problems residing in the server layer, you run on demand diagnostic monitors on suspect CIs to further analyze the server side of an application from different perspectives (such as deployed monitors, changes, related topology status for dependencies and impacted CIs, and deeper diagnostic scripts).

For details on diagnostic monitors, see "Diagnostic Monitors Screen" on page 56.

View the main suspects and correlation graph

For problems residing in the server layer, you view the list of main suspects to further analyze the CIs that are most likely causing the problem, from different perspectives (such as deployed monitors, changes, related topology status for dependencies and impacted CIs, and deeper diagnostic scripts).

The correlation graph shows the correlation between, and changes made to, selected CIs. This enables you to determine patterns that can assist in finding the root cause of the problem.

For details on the Main Suspects screen, see "Main Suspects Screen" on page 62. For details on the Correlation graph, see "Correlation Graph" on page 74.

Note: Each of the isolation steps can be run independently of the others. However, it is recommended to carry out all the steps in the order in which they are listed.

For an example of the process of isolating a problem, see "Example" on page 18.

Other Task Flows

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"Manage a Problem" on page 9

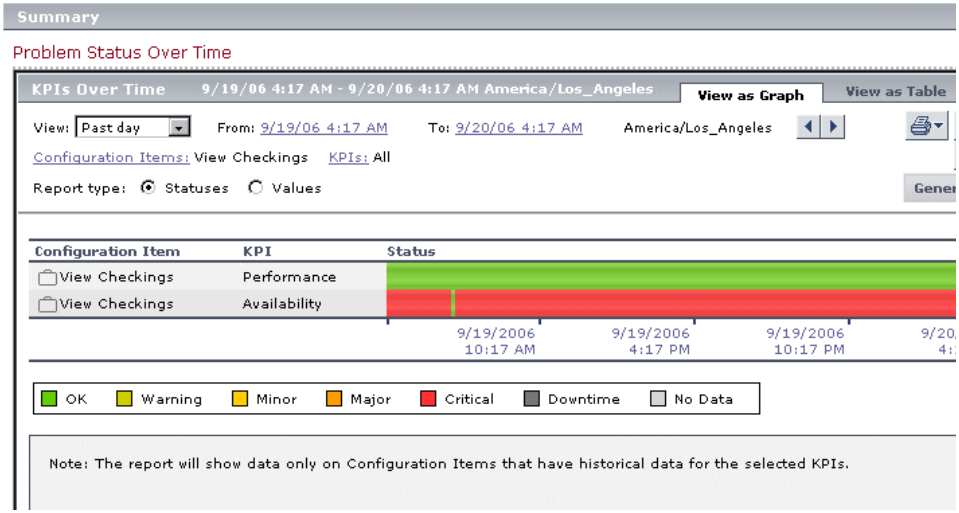
Example

Example of the process used to isolate a problem.

View the Problem Summary

When you click **Triage** for the problem in the Problem List, the main **Problem Isolation** screen opens and the **Problem Summary** is displayed by default.

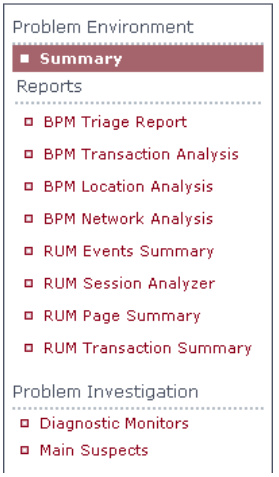
Since there is historical data for the problem CI's KPI, the **KPIs Over Time** report is automatically displayed for the past day. From the report below, you can see that apart from a very short period at about 06:30 on the previous day, the Availability KPI for the View Checkings CI has had a status of critical for the entire period displayed in the report.



For details on the KPIs Over Time report, see "KPIs Over Time Reports" in *Using Dashboard*.

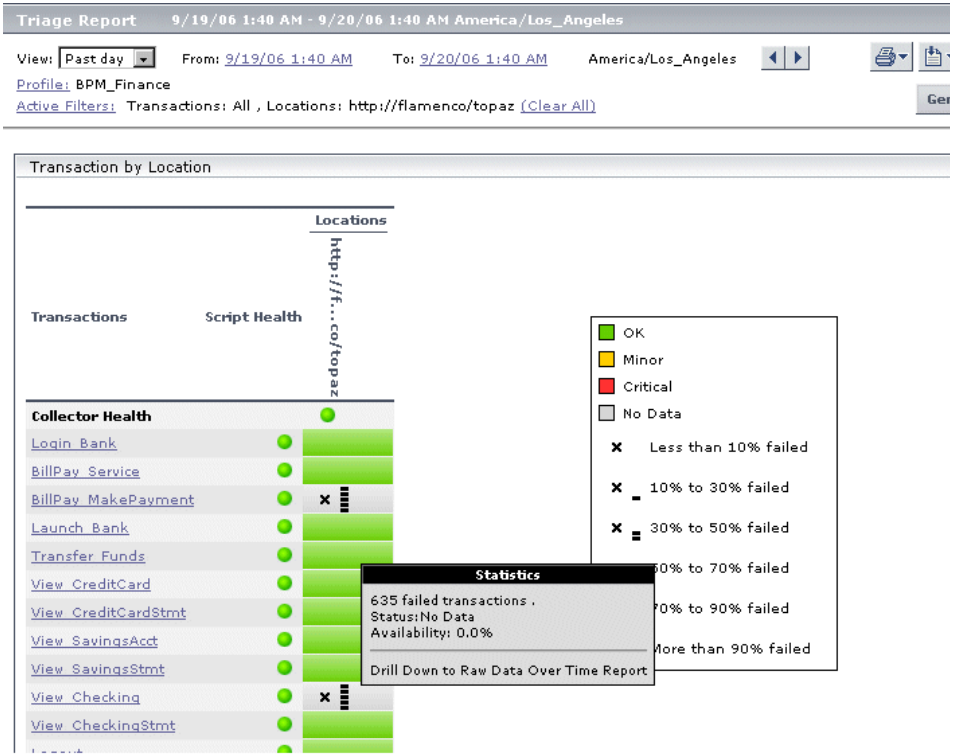
Generate relevant reports

Since Problem Management has determined that the View Checkings CI has both Business Process and Real User Monitor child CI's, the available reports that can be run include both Business Process Monitor and Real User Monitor reports. For details on the reports, and how Problem Management determines which reports to display, see "Problem Isolation Reports" on page 35.



You decide to run the Business Process Monitor Triage report from which you determine that in the same location, both the View Checking and BillPay MakePayment CIs have not been available for over 90% of the time.

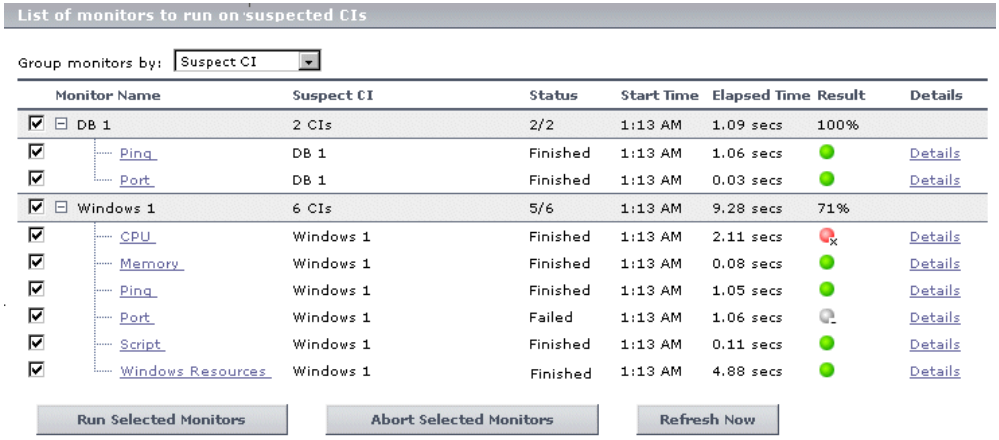
For details on the Triage report, see "Triage Raw Data Report" in *Using End User Management*.



Run diagnostic monitors

Problem Management suspects two CIs of being possible causes of the problem – **DB1** and **Windows 1**. The most relevant monitors to run on these CIs are displayed.

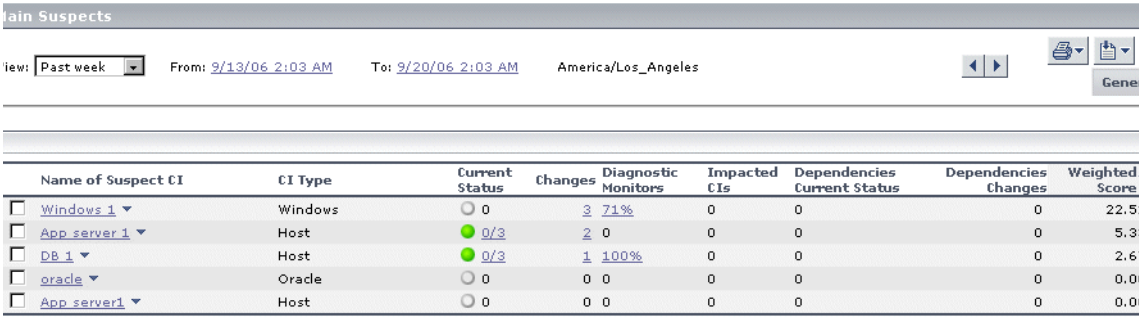
You decide to run all of the suggested monitors, so you select them all and click **Run Selected Monitors** to start their execution.



View the main suspects and correlation graph

Once all the diagnostic monitors have run, Problem Management displays the main suspect CIs on the Main Suspects screen. From this screen you see that there are four main suspect CIs – Windows 1, App server 1, DB 1, and Oracle. A CI may appear more than once in the list, if more than one monitor was run on it.

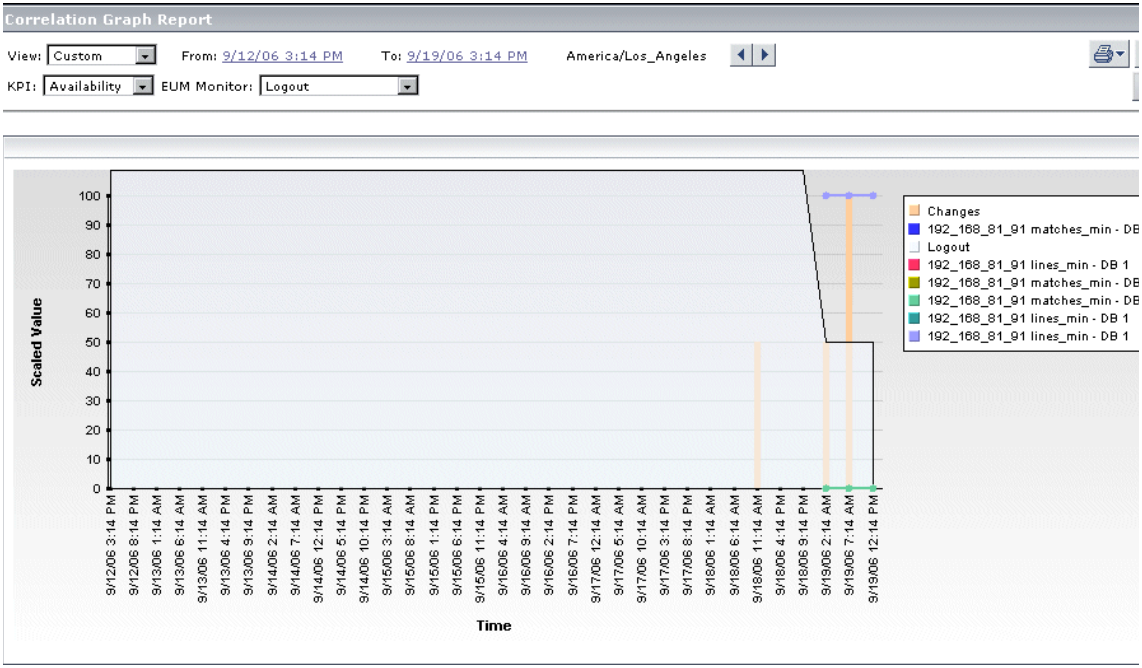
The CIs are listed from the most likely suspect to the least likely suspect, based on their weighted scores that appear in the last column. From the list, you see that Windows 1 is the most suspect CI. For details on how Problem Management calculates the weighted score, see “Weighting and Diagnostic Monitors Success Ratio” on page 37.



Name of Suspect CI	CI Type	Current Status	Changes	Diagnostic Monitors	Impacted CIs	Dependencies Current Status	Dependencies Changes	Weighted Score
Windows 1	Windows	0	3	71%	0	0	0	22.5
App server 1	Host	0/3	2	0	0	0	0	5.3
DB 1	Host	0/3	1	100%	0	0	0	2.6
oracle	Oracle	0	0	0	0	0	0	0.0
App server1	Host	0	0	0	0	0	0	0.0

You select the suspect CIs you want to view on the correlation graph, and click **Generate Correlation Graph**. The Correlation graph opens.

From the graph, you determine that when the availability of the **View Checkings** CI (denoted by the area graph) fell to 50 percent, the CI **DB 1** was not available at all, and three changes were made to the CI **Windows 1**.



You investigate DB 1 and Windows 1 to see which of them is causing the problem, and then fix and close the problem.

For process of isolating a problem, see “Process” on page 16.

Other Task Flows

“Deploy Problem Management” on page 3

“Manage a Problem” on page 9

Part II

Problem Management Reference Information

2

Problem Management Introduction

This section includes the main concepts of Problem Management.

Introduction to Problem Management

Problem Management enables you to isolate and manage enterprise problems discovered in Mercury Business Availability Center, and to identify likely suspects, to help find the root cause of a problem.

Problems are opened on a specific CI and KPI from within the Mercury Business Availability Center Dashboard application. For details on opening a new problem, see "New Problem Dialog Box" on page 40.

The Problem Management module consists of two main areas:

- **Problem Management.** Used for managing a problem within Mercury Business Availability Center. Once a new problem has been created, you use Problem Management to enter information about the problem, update the information throughout the problem's life, and close the problem once it has been corrected. For details on Problem Management, see "Manage a Problem" on page 9.
- **Problem Isolation.** Used to determine the root cause of a problem. To isolate a problem, you can:
  - run relevant reports to obtain more information about the problem and its cause
  - use diagnostic monitors to find the status of CIs associated with the problem
  - list suspected CIs and view their correlation with the problem CI.

  For details on Problem Isolation, see "Isolate a Problem" on page 15.

A problem's lifecycle incorporates elements from both Problem Management and Problem Isolation. For details of the problem lifecycle, see "The Problem Lifecycle" on page 29.

For a list of the prerequisites for working with the Problem Management module, see "Prerequisites" on page 80.

Other Introduction Topics

"Who Should Read This Guide" on page 27

Who Should Read This Guide

This guide is intended for the following users of Mercury Business Availability Center:

- Mercury Business Availability Center administrators
- Mercury Business Availability Center end users

Readers of this guide should be knowledgeable about Mercury Business Availability Center Dashboard, Business Process Monitor, and SiteScope.

In addition, administrators should be knowledgeable about Mercury Universal CMDB and monitors deployment.

Other Introduction Topics

"Introduction to Problem Management" on page 26

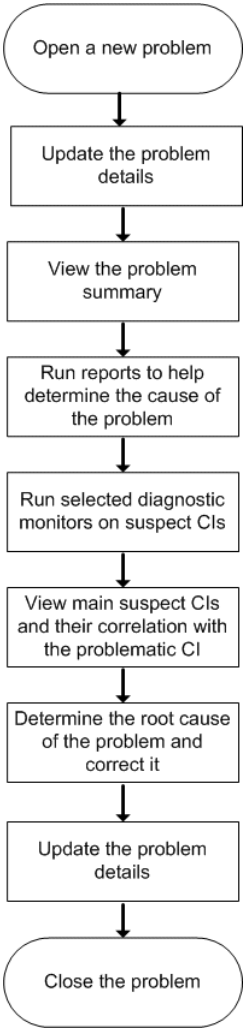
3

Problem Management Concepts

This section includes the main concepts of Problem Management.

The Problem Lifecycle

The following diagram shows the lifecycle of a problem, which includes elements from both Problem Management and Problem Isolation.



Updating details of the problem can occur at any time in the cycle, as new information is discovered and conclusions are reached while isolating the problem.

The different steps carried out in isolating the problem can be performed as individual steps. They are not dependent on one another; however it is recommended to carry out all the steps in the order shown.

Other Concepts

"Diagnostic Monitors" on page 31

"Integration with Ticketing Systems" on page 33

"Problem Isolation Reports" on page 35

"Weighting and Diagnostic Monitors Success Ratio" on page 37

Diagnostic Monitors

Diagnostic monitors are run by Problem Management to determine the status and availability of CIs suspected of being the possible cause of a problem.

Diagnostic monitors are executed via an intermediary monitor running tool for which, by default, Problem Management uses SiteScope.

Problem Management provides standard Mercury Application Mapping TQLs and standard SiteScope monitor templates, which are used by the diagnostic monitors. The Mercury Application Mapping TQLs are automatically available once Problem Management has been installed, but the SiteScope monitor templates must be installed and imported manually. For details on installing the SiteScope monitor templates, see "Installing the SiteScope Monitor Templates" on page 81.

When a problem is opened, Problem Management examines the CMDB and determines which CIs it most suspects of being the main cause of the problem. These CIs are called suspect CIs (for details, see "Main Suspects Screen" on page 62).

For each suspect CI, Problem Management uses the Mercury Application Mapping TQLs to determine which monitors from a pre-defined list for the CI Type are valid. That is, the relevant monitors to run on the suspect CI to get useful data.

When the Diagnostic Monitors page is accessed (for details, see "Diagnostic Monitors Screen" on page 56), the relevant monitors for the suspect CIs are displayed. You select which of the listed diagnostic monitors to run.

When a diagnostic monitor is selected to run, Problem Management uses a Mercury Application Mapping TQL to get the values of selected attributes from various TQL nodes. This data is passed, via variables, to the SiteScope monitor templates for use when running the diagnostic monitors.

The links between the Mercury Application Mapping TQLs, the SiteScope monitor templates, and the Problem Management diagnostic monitors are configured in the diagnostic monitors XML file. For details on configuring the diagnostic monitors XML file, see "Customizing the Diagnostic Monitors XML File" on page 83.

Other Concepts

"The Problem Lifecycle" on page 29

"Integration with Ticketing Systems" on page 33

"Problem Isolation Reports" on page 35

"Weighting and Diagnostic Monitors Success Ratio" on page 37

Integration with Ticketing Systems

Problem management can be integrated with Mercury Service Desk, so that a ticket can be opened in Mercury Service Desk for a problem in Problem Management. Also, when integrated, you can access Problem Management from a Mercury Service Desk incident, and use the Problem Isolation options to help find the root cause of a problem.

Once a ticket exists in Mercury Service Desk for a problem in Problem Management, there is no direct link between the ticket and the problem. That is, updating the ticket or problem in one system has no affect on the ticket or problem in the other system.

Configuring Problem Management to Integrate with Mercury Service Desk

To configure Problem Management to integrate with Mercury Service Desk, you must configure the Problem Management infrastructure settings with the URL path to the Mercury Service Desk system. For details, see "Configuration Settings" on page 87.

Mercury Service Desk must have access to the Mercury Universal CMDB shared by Mercury Business Availability Center and Mercury Application Mapping. For details on the requirements for configuring Mercury Service Desk to integrate with Problem Management, refer to the Mercury Service Desk documentation.

Opening a Ticket in Mercury Service Desk From Problem Management

To open a ticket in Mercury Service Desk from a problem in Problem Management, click the **Ticket** button for the problem in the Problem List. For details on the Problem List, see "Problem List Screen" on page 42.

If integration between Problem Management and Mercury Service Desk has been configured, the login screen to Mercury Service Desk opens. Using a valid Mercury Service Desk login and password, you log in to Mercury Service Desk and enter the requested details to open a ticket. For details on working in Mercury Service Desk, refer to the Mercury Service Desk documentation.

Using the Problem Isolation Options to Help Solve a Problem in Mercury Service Desk

For details on accessing Problem Management from Mercury Service Desk, and using the Problem Isolation options, refer to the Mercury Service Desk documentation.

When Problem Management is accessed from Mercury Service Desk, the Problem Isolation main screen is displayed. From the Problem Isolation main screen, the different Problem Isolation options can be used to help solve the problem. For details on the Problem Isolation main screen, see "Problem Isolation Main Screen" on page 50.

Once you have finished working in Problem Management, and have returned to the Mercury Service Desk application, no record of the problem is kept in Problem Management.

Other Concepts

"The Problem Lifecycle" on page 29

"Diagnostic Monitors" on page 31

"Problem Isolation Reports" on page 35

"Weighting and Diagnostic Monitors Success Ratio" on page 37

Problem Isolation Reports

Problem Management determines which reports to include in the Reports section on the Problem Isolation Main Screen, according to the CI on which the problem has been opened, or its child CIs.

If the CI on which the problem has been opened has Business Process Monitor or Real User Monitor child CIs, Business Process Monitor or Real User Monitor reports will be included accordingly.

If the CI on which the problem has been opened does not have any Business Process Monitor or Real User Monitor child CIs, Business Process Monitor reports will be included if the CI is a Business Process CI, and Real User Monitor reports will be included if the CI is a Real User Monitor CI. If the CI is neither a Business Process, nor a Real User Monitor CI, no reports will be available.

The following reports may be included in the Reports section on the Problem Isolation Main Screen.

Business Process Monitor Reports:

- Triage Raw Data Report (for details, see "Triage Raw Data Report" in *Using End User Management*.)
- Transaction Analysis Report (for details, see "Transaction Analysis Report" in *Using End User Management*.)
- Location Analysis Reports (for details, see "Location Analysis Reports" in *Using End User Management*.)
- Network Analysis Report (for details, see "Network Analysis Report" in *Using End User Management*.)

Real User Monitor Reports:

- Event Summary Report (for details, see "Event Summary Report" in *Using End User Management*.)
- Session Analyzer Report (for details, see "Session Analyzer Report" in *Using End User Management*.)
- Page Summary Report (for details, see "Page Summary Report" in *Using End User Management*.)

➤ Transaction Summary Report (for details, see "Transaction Summary Report" in *Using End User Management*.)

Other Concepts

"The Problem Lifecycle" on page 29

"Diagnostic Monitors" on page 31

"Integration with Ticketing Systems" on page 33

"Weighting and Diagnostic Monitors Success Ratio" on page 37

Weighting and Diagnostic Monitors Success Ratio

The following calculations are used in determining the weighting of suspect CIs, and the success ratio of diagnostic monitors:

Suspect CIs Weighting

The weight of each suspect CI (that is, how suspect a specific CI is compared to the other suspect CIs), as displayed in the Main Suspects screen, is calculated according to the following formula:

Monitors weight, as configured in Problem Management infrastructure settings, * (the number of monitors run on the CI that failed / the total number of monitors run on the CI)

plus

Changes weight, as configured in Problem Management infrastructure settings, * (the number of changes made on the CI / the total number of changes made on the suspect CIs)

plus

Diagnostic monitors weight, as configured in Problem Management infrastructure settings, * (the number of diagnostic monitors run on the CI that failed / the total number of diagnostic monitors run on the CI)

plus

Impacted monitors weight, as configured in Problem Management infrastructure settings, * (the number of impacted monitors for the CI that failed / the total number of impacted monitors for the CI)

plus

Dependencies monitors weight, as configured in Problem Management infrastructure settings, * (the number of dependent monitors for the CI that failed / the total number of dependent monitors for the CI)

plus

Dependencies changes weight, as configured in Problem Management infrastructure settings, * (the number of dependencies changes for the CI / the total number of dependencies changes for the suspect CIs)

Failed monitors are those represented by a red circle.

For details on configuring the weights in Problem Management infrastructure settings, see "Configuration Settings" on page 87.

Diagnostic Monitor Success Ratio

The success rate percentage of a diagnostic monitor set run on a CI, as displayed in the Diagnostic Monitors column on the Main Suspects screen, is calculated as the percent of the total weight of the diagnostic monitors that were successful, out of the total weight of all the diagnostic monitors run for the CI.

For example: three diagnostic monitors are run for a CI, with a weight of 2, 3, and 5 respectively. The first two monitors (with weights of 2 and 3) were successful, but the last monitor (with a weight of 5) was unsuccessful. The combined weight of successful monitors is 5 (2 + 3), and the total weight of the monitors run is 10 (2 + 3 + 5). The success ratio is 5 out of 10, or 50 percent.

Monitor weights are configured in the **on_demand_monitoring.xml** file. For details, see "Monitors" on page 83.

Other Concepts

"The Problem Lifecycle" on page 29

"Diagnostic Monitors" on page 31

"Integration with Ticketing Systems" on page 33

"Problem Isolation Reports" on page 35

4

Problem Management GUI

This section includes the screens and dialog boxes that are part of the Problem Management GUI.

New Problem Dialog Box

Description	The dialog box for entering basic information to open a new problem on a CI.
Accessed By	Right-clicking the CI on which you want to open the problem in Dashboard, and selecting **Problem Management** > **Create New Problem** from the menu. **Note:** A problem can only be opened on CIs of specific types, that are configured in the Problem Management Infrastructure settings. For the default list of CI types on which problems can be opened, refer to the **Allowed CI types for problem creation** setting in "Configuration Settings" on page 87.
Included in Processes	"Manage a Problem" on page 9

Acknowledgement Details	
Description	Add acknowledgement details for the CI in Dashboard (optional). For details on acknowledging CIs, see "Acknowledging Performance Problems" in *Using Dashboard*.
Default value	N/A
Character exceptions	N/A
Non-standard length	N/A
Non-standard syntax	N/A
For details on allowed characters and formats, see "General Reference Information" in *Reference Information*.	

KPIs	
Description	Select the CI's KPI on which you want to open the problem. All the CI's available KPIs are listed.
Default value	The first KPI in the list is selected by default.

Other Screens

"Problem List Screen" on page 42

"Problem Isolation Main Screen" on page 50

"Problem Summary Screen" on page 54

"Diagnostic Monitors Screen" on page 56

"Monitor Parameters Dialog Box" on page 60

"Main Suspects Screen" on page 62

"List of Monitors" on page 67

"List of Changes" on page 69

"List of Diagnostic Monitors" on page 72

"Correlation Graph" on page 74

Problem List Screen

Description	The main screen to open, manage, update, and close problems. The screen consists of two main panes: ➤ **The Problems pane.** Displays a list of the problems with basic information about each one. ➤ **The Problem Properties pane.** Contains detailed information about the problem currently selected in the list of problems in the Problems pane. Also used for updating problem information.
Accessed By	➤ Applications > Problem Management ➤ Automatically opens after a new problem is created
Included in Processes	"Manage a Problem" on page 9

Problem Opened Date	
Description	Filter for selecting the records displayed in the Problem List by the date and time the problem was opened. Select a pre-defined option from **View**, or click the **from** and **to** links to open a dialog box in which you can set the start and end time and date.
Default value	Current date to one week back
Configurable	N/A

Problem Status	
Description	Filter for selecting the records displayed in the Problem List by problem status.
Default value	Active
Configurable	N/A

Opened By	
Description	Filter for selecting the records displayed in the Problem List by the login name of the user who opened the problem.
Default value	N/A
Character exceptions	N/A
Non-standard length	N/A
Non-standard syntax	N/A
For details on allowed characters and formats, see "General Reference Information" in *Reference Information*.	

Submit	
Description	Activates the filter to select the problems to be displayed in the Problem List.

Problems Pane:

PID	
Description	Automatically assigned, unique problem ID.

Business Entity Name	
Description	The full name, including the path, of the CI on which the problem was opened. If the name is longer than the available space, three dots (...) are added at the beginning of the name.

Current Entity Status	
Description	The name of the problem CI's KPI on which the problem was opened.

Problem Status	
Description	Assigned problem status. Available options are: ➤ Active - for new problems ➤ Known Error - for problems that have been successfully identified and for which a workaround has been developed. ➤ Closed - for problems that have been resolved and for which a record of the solution has been recorded.

Elapsed Time	
Description	The amount of time elapsed since the problem was opened.

Business Priority	
Description	The assigned business priority. Available options are: ➤ High ➤ Medium ➤ Low

Triage	
Description	Opens the main Problem Isolation screen, at the Problem Summary tab. For details, see “Problem Summary Screen” on page 54.

Ticket	
Description	If you are working with Mercury Service Desk, opens the login for this application. After logging in, opens the page for creating a new problem. For details on integrating Problem Management with Mercury Service Desk, see “Integration with Ticketing Systems” on page 33.

Problem Properties Pane:

Problem Status	
Description	Sets the status of the problem.
Default value	Current value, or Active for new problem.
Configurable	N/A

Business Priority	
Description	Sets the business priority of the problem.
Default value	Medium
Configurable	N/A

Business Impact	
Description	Sets the business impact of the problem.
Default value	Medium
Configurable	N/A

Business Urgency	
Description	Sets the business urgency of the problem.
Default value	Normal
Configurable	N/A

Problem Category	
Description	Sets the category of the problem.
Default value	N/A
Configurable	N/A

Acknowledgement Details	
Description	Sets the acknowledgement status and details of the CI in Dashboard. For details on acknowledging CIs, see "Acknowledging Performance Problems" in *Using Dashboard*.
Default value	N/A
Configurable	N/A

Update	
Description	Updates the values of the editable properties with the current status.

CI Type	
Description	Displays the icon and type name of the CI Type for the CI on which the problem was opened.
Default value	N/A

Opened Time	
Description	Displays the time that the problem was opened.
Default value	N/A

Elapsed Time	
Description	Displays the length of time elapsed since the problem was opened.
Default value	N/A

Opened By	
Description	Displays the login name of the user who opened the problem.
Default value	N/A

Other Screens

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Problem Isolation Main Screen

Description	The main screen from which to call and display the various Problem Isolation options. At the top of the screen, there is a line of Bread Crumbs that includes a link to the Problem List Screen (for details, see "Problem List Screen" on page 42), details about the CI and KPI on which the problem has been opened, and a colored icon showing the status of the problem CI. The screen comprises two panes: ➤ **The** Left-hand Pane**.** Contains links to the Problem Isolation options that you can call. ➤ **The Right-hand Pane**. Used to display the Problem Isolation screen that is currently active. When first opened, the right-hand pane displays the Problem Summary Screen by default (for details, see "Problem Summary Screen" on page 54).
Accessed By	➤ Clicking the **Triage** button for a problem in the Problem List Screen (for details, see "Problem List Screen" on page 42). ➤ Right-click a CI in Dashboard and select **Problem Management** > **Go to Problem Isolation** from the menu
Included in Processes	"Isolate a Problem" on page 15

Bread Crumbs

Problem Management	
Description	Click to return to the Problem List Screen (for details, see "Problem List Screen" on page 42).
Default value	N/A

CI Name	
Description	The CI on which the problem was opened.
Default value	N/A

CI Type	
Description	The type of CI on which the problem was opened.
Default value	N/A

KPI Type	
Description	The CI's KPI on which the problem was opened.
Default value	N/A

Current Status	
Description	Displays the current status of the CI on which the problem was opened. Valid statuses are: ➤ **Green.** OK ➤ **Olive.** Warning ➤ **Yellow.** Minor ➤ **Orange.** Major ➤ **Red.** Critical ➤ **Grey.** No status Hold the cursor over the status icon to display a tooltip showing the status, the rule used to calculate the result, and the amount of time the status has been held for each of the CI's KPIs.
Default value	N/A

Left-hand Pane

Problem Summary	
Description	Click to display the Problem Summary Screen in the right-hand pane (for details, see "Problem Summary Screen" on page 54). The Problem Summary Screen is displayed by default when the **Triage** button is clicked for a problem in the Problem List Screen (for details, see "Problem List Screen" on page 42).
Default value	N/A

Reports	
Description	Under Reports are links to various Business Process Monitor and/or Real User Monitor reports that can be run to assist you in determining the root cause of the problem. For details on the reports, and how Problem Management determines which reports to display, see "Problem Isolation Reports" on page 35.
Default value	N/A

Diagnostic Monitors	
Description	Click to display the Diagnostic Monitors Screen in the right-hand pane (for details, see "Diagnostic Monitors Screen" on page 56).
Default value	N/A

Main Suspects	
Description	Click to display the Main Suspects Screen (for details, see “Main Suspects Screen” on page 62).
Default value	N/A

Other Screens

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Problem Summary Screen

Description	Displays a summary of a selected problem, showing its current status and status over time.
Accessed By	➤ Clicking the Summary link in the left pane of any Problem Isolation screen. ➤ Default screen opened when clicking the Triage button on the Problem List screen. For details, see "Problem List Screen" on page 42.
Included in Processes	"Isolate a Problem" on page 15

 **Problem Status Over Time**	
Description	If there is historical data for the CI's KPI on which the problem was opened, the KPIs Over Time report is displayed. For details on the KPIs Over Time report, see "KPIs Over Time Reports" in *Using Dashboard*. **Note:** KPI data over time is only saved for CIs configured to save such data. For details on configuring a CI to save KPI data over time, see "Saving KPI Data over Time for a CI" in *Application Administration*.

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Diagnostic Monitors Screen

Description	Screen from which diagnostic monitors can be run on a problem's main suspect CIs to provide further information to determine the problem's root cause.
Accessed By	Clicking the Diagnostic Monitors link in the left pane of any Problem Isolation screen.
Included in Processes	"Isolate a Problem" on page 15

Group By	
Description	Select the criteria by which the available monitors are grouped in the display.
Default value	Suspect CI

Monitor Name	
Description	The name of the available monitor. Select the checkbox adjacent to the monitor to include the monitor in those being run. Click the monitor name to open the Monitor Parameters Dialog Box, where you can change the values of the parameters used by the monitor. For details on the Monitor Parameter dialog box, see "Monitor Parameters Dialog Box" on page 60.

Suspect CI	
Description	The CI on which the monitor will be run.

Topology Pattern	
Description	The topology (Mercury Application Mapping TQL), to which the CI belongs.

Status	
Description	The execution status of the monitor. Valid statuses are: ➤ Finished ➤ Running ➤ Preliminary

Start Time	
Description	The time that the monitor started execution.

Elapsed Time	
Description	The amount of time since the monitor started execution.

Result	
Description	A color denoting the result of the monitor test. Valid results are: ➤ Green – test succeeded ➤ Red – test failed

Details	
Description	A link to a popup window displaying additional information returned from the monitor environment.
Default value	N/A

Run Selected Monitors	
Description	Click to execute the selected monitors.

Abort Selected Monitors	
Description	Click to stop the execution sequence.

Refresh Now	
Description	Click to refresh the list of diagnostic monitors for the suspect CIs.

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Other Links

"Installing the SiteScope Monitor Templates" on page 81

"Customizing the Diagnostic Monitors XML File" on page 83

Monitor Parameters Dialog Box

Description	Dialog box to change the values of diagnostic monitor parameters
Accessed By	Clicking a monitor name from the list of monitors displayed in the "Diagnostic Monitors Screen" on page 56
Included in Processes	"Isolate a Problem" on page 15

Parameter Name	
Description	The name of the monitor parameter
Default value	Each parameter for the relevant monitor is listed

Parameter Value	
Description	The current value of the monitor parameter
Default value	The default value configured in the on_demand_monitoring.xml file, or a changed value, provided the problem has remained as the current problem since the value was changed
Character exceptions	N/A
Non-standard length	N/A
Non-standard syntax	N/A
For details on allowed characters and formats, see "General Reference Information" in *Reference Information*.	

Default	
Description	Restores the default value for the monitor parameter

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Main Suspects Screen

Description	Displays summary data for the CIs considered to be the main cause of the problem. A graph showing the correlation between the problematic KPI and selected suspect CIs can be generated.
Accessed By	Clicking the Main Suspects link in the left pane of any Problem Isolation screen.
Included in Processes	"Isolate a Problem" on page 15

View	
Description	Filter to select a pre-defined time period for which data about the suspect CIs is displayed.
Default value	Custom
Configurable	N/A

From	
Description	Manually set the start date of the time period for which data about the suspect CIs is displayed. Click this link to open a calendar from which you select the start date.
Default value	N/A

To	
Description	Manually set the end date of the time period for which data about the suspect CIs is displayed. Click this link to open a calendar from which you select the end date.
Default value	N/A

Forward and Back Arrows	
Description	Click the Forward and Back arrows to change the selected time zone, which is displayed to the left of the arrows.

Generate	
Description	Generates the Main Suspects table according to the filter's values.

Check box	
Description	Select the checkbox for a suspect CI, to include it in the correlation graph.
Default value	N/A

Name of Suspect CI	
Description	The name of the suspect CI. To display the Mercury Application Mapping Change report for the CI, click the CI name and select Drill Down to Mercury Application Mapping Change report from the menu. For details on the Mercury Application Mapping Change report, refer to the *Mercury Application Mapping User's Guide*.
Default value	N/A

CI Type	
Description	The type of the suspect CI.

Current Status	
Description	Displays the current Dashboard status icon for the CI, as well as the number of problem monitors (out of the total number of monitors) for the CI and its descendants. Click on the number of problem monitors displayed to see the List of Monitors. (For details, see "List of Monitors" on page 67.)
Default value	N/A

Changes	
Description	Displays the number of changes made to the suspect CI and its descendant CIs. Click on the number of changes displayed to see the List of Changes. (For details, see "List of Changes" on page 69.)
Default value	0

Diagnostic Monitors	
Description	Displays the number of diagnostic monitors that were run on the suspect CI. The displays shows the number of monitors with the status of **Error**, as well as the total number of monitors run. Click the number of monitors displayed to see the List of Diagnostic Monitors. (For details, see "List of Diagnostic Monitors" on page 72.)
Default value	N/A

Impacted CIs	
Description	Displays the number of problematic monitors for CIs of which the suspect CI is a dependant. Click the number of monitors displayed to see the List of Monitors. (For details, see "List of Monitors" on page 67.)

Dependencies Current Status	
Description	Displays the number of problematic monitors for dependant CIs of the suspect CI. Click the number of monitors displayed to see the List of Monitors. (For details, see "List of Monitors" on page 67.)
Default value	N/A

Dependencies Changes	
Description	Displays the number of changes made to dependant CIs of the suspect CI. Click the number of changes displayed to see the List of Changes. (For details, see "List of Changes" on page 69.)
Default value	N/A

Weighted Score	
Description	Displays the weighted average of all the displayed data for the suspect CI. The weight is correlated to the chances of the suspect CI being the root cause of the problem. For details on weighting, see "Weighting and Diagnostic Monitors Success Ratio" on page 37.

Generate Correlation Graph	
Description	Generates the Correlation graph for the selected CIs. For details on the Correlation graph, see "Correlation Graph" on page 74.

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List of Monitors

Description	Displays the problem monitors for the CI and its descendants.
Accessed By	Clicking the number of problem monitors displayed in the Current Status column on the Main Suspects screen.
Included in Processes	"Isolate a Problem" on page 15

CI Name	
Description	The name of the suspect CI.

CI Type	
Description	The type of the suspect CI.

Monitor Name	
Description	The name of the monitor that was run on the suspect CI.

Monitor Type	
Description	The type of the monitor that was run on the suspect CI.

Monitor Status	
Description	The Dashboard status of the monitor that was run on the suspect CI. Hold the cursor over the status icon to display a tooltip with details of the status.

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List of Changes

Description	Displays the number of changes made to the suspect CI and its descendant CIs.
Accessed By	Clicking the number of changes displayed in the Changes and Dependencies Changes columns on the Main Suspects screen.
Included in Processes	"Isolate a Problem" on page 15

CI Name	
Description	The name of the suspect CI
Default value	N/A

CI Type	
Description	The type of the suspect CI
Default value	N/A

Change Type	
Description	The type of change made to the suspect CI
Default value	N/A

CI Attribute	
Description	The suspect CI's attribute to which the change was made
Default value	N/A

Old Value	
Description	The value of the suspect CI's attribute before the change
Default value	N/A

New Value	
Description	The value of the suspect CI's attribute after the change
Default value	N/A

Change Date	
Description	The date the change was made to the suspect CI
Default value	N/A

Changer	
Description	The name of the entity that made the change to the suspect CI. A value of **ITU** denotes a manual change made by a user.
Default value	N/A

Other Screens

"New Problem Dialog Box" on page 40

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"Problem Isolation Main Screen" on page 50

List of Diagnostic Monitors

Description	Displays the diagnostic monitors that were run on the suspect CI.
Accessed By	Clicking the number of changes displayed in the Diagnostic Monitors column on the Main Suspects screen.
Included in Processes	"Isolate a Problem" on page 15

Topology Pattern	
Description	The topology (Mercury Application Mapping TQL), to which the CI belongs.

Monitor Name	
Description	The name of the monitor that was run on the suspect CI.

Elapsed Time	
Description	The amount of time since the monitor started execution.

Status	
Description	A color denoting the result of the monitor test. Valid results are: ➤ Green – test succeeded ➤ Red – test failed ➤ Grey – monitor could not be run

Details	
Description	A link to a popup window displaying additional information returned from the monitor environment.

Weight	
Description	The importance weight of each monitor as configured in the monitor XML file. For details on the monitor XML file, see "Customizing the Diagnostic Monitors XML File" on page 83.

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Correlation Graph

Description	Displays the correlation between the CI on which a problem has been opened, and selected suspect CIs from the Main Suspects Screen. Also shows changes made to the selected suspect CIs. For an example of the Correlation graph, see “Correlation Graph - Example” on page 77.
Accessed By	Clicking **General Correlation Graph** on the Main Suspects Screen. For details on the Main Suspects screen, see “Main Suspects Screen” on page 62.
Included in Processes	“Isolate a Problem” on page 15

View	
Description	Filter to select a pre-defined time period for which the Correlation graph is displayed.
Default value	Custom
Configurable	N/A

From	
Description	Manually set the start date of the time period for which the Correlation graph is displayed. Click this link to open a calendar from which you select the start date.
Default value	N/A

To	
Description	Manually set the end date of the time period for which the Correlation graph is displayed. Click this link to open a calendar from which you select the end date.
Default value	N/A

Forward and Back Arrows	
Description	Click the Forward and Back arrows to change the selected time zone, which is displayed to the left of the arrows.

KPI	
Description	The KPI of the CI on which the problem was opened, that is included in the Correlation graph.
Default value	The problem CI's KPI on which the problem was opened.
Configurable	N/A

EUM Monitor	
Description	The Business Process step, or transaction monitor, child CI of the CI on which the problem was opened, that is included in the Correlation graph. If the CI on which the problem was opened does not have any such child CIs, the problem CI itself if included.
Default value	The first monitor in the list.
Configurable	N/A

Generate	
Description	Generates the Correlation graph according to the filter's values.

Scaled Value	
Description	The y-axis displaying the KPI measurements and number of CI changes, scaled as percentage units, with the highest measurement represented as 100%.

Time	
Description	The x-axis displaying the time division units for the time range specified when generating the report.

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Correlation Graph - Example

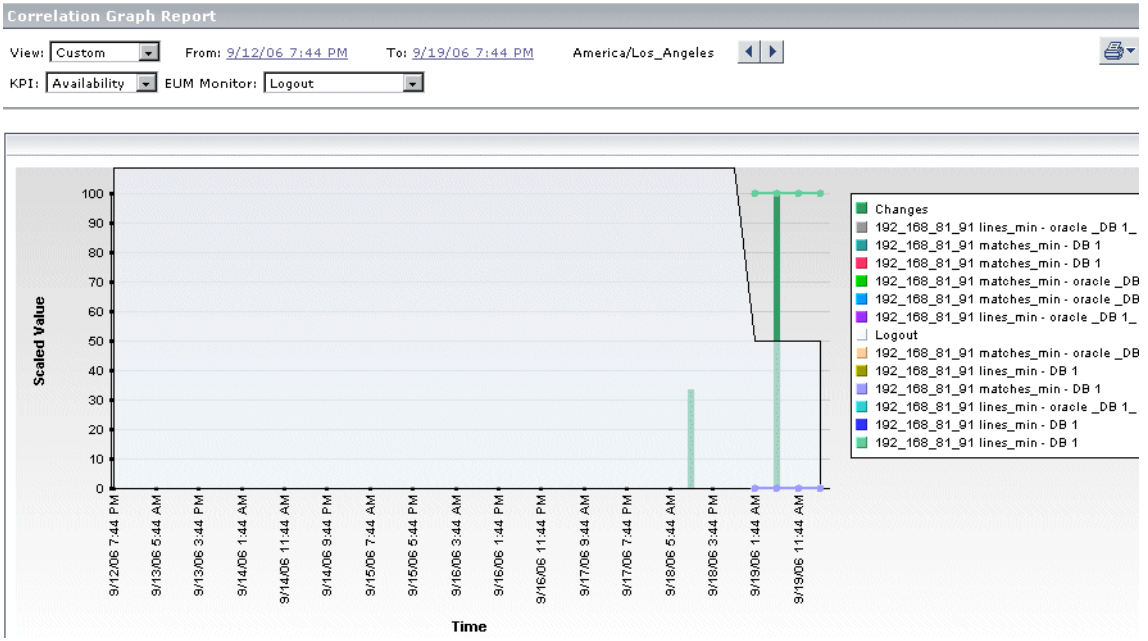
The Correlation graph includes three types of data:

- **An area graph.** Shows the status of the selected KPI for the selected CI, over the time period for which the Correlation graph is displayed.
- **Line graphs.** Show the status of the selected main suspect CIs, over the time period for which the Correlation graph is displayed.
- **Bar graphs.** Show changes made to the selected main suspect CIs, over the time period for which the Correlation graph is displayed.

  Holding the mouse over a line graph at a particular point of time, displays a tooltip showing the details of the monitor run on the suspect CI.

  Holding the mouse over a bar graph, displays all the changes made to selected suspect CIs at that time.

The following example shows the Correlation graph for the Availability KPI of the Logout CI, which is a child CI of View Checkings. The time period for which the Correlation graph is displayed is from September 12, at 7:44 AM, to September 19, at 7:44 AM. The selected main suspect CIs included in the graph are Windows 1, and DB 1.



5

Problem Management Setup and Configuration Reference

This section includes setup and configuration steps that must be performed to configure Problem Management for your system.

Prerequisites

The following prerequisites are needed to use the Problem Management module:

- Mercury Business Availability Center 6.5
- Mercury Application Mapping 6.5
- Shared CMDB between Mercury Business Availability Center and Mercury Application Mapping
- SiteScope 8.5 or later

Other Setup and Configuration Topics

"Installing the SiteScope Monitor Templates" on page 81

"Installing Diagnostic Monitor SQL Scripts" on page 82

"Customizing the Diagnostic Monitors XML File" on page 83

"Configuration Settings" on page 87

Installing the SiteScope Monitor Templates

The Problem Management module includes a template container of the SiteScope monitor templates that are used by Problem Management diagnostic monitors when gathering information about a problem's suspect CIs.

The Problem Management template container must be installed, and the monitor templates imported, on each of the SiteScope machines in your system, used to run Problem Management diagnostic monitors.

To install the Problem Management template container and import the monitor templates:

Copy the **PMTemplates** file included in Mercury Business Availability Center 6.5, to the **<SiteScope root directory>\SiteScope\persistency\import** directory on the SiteScope machine. SiteScope automatically adds the template container to its configuration, and imports the Problem Management monitor templates.

Refer to the Mercury Business Availability Center 6.5 readme file for the source location of the PMTemplates file.

Note: Once the monitor templates have been imported, the templates, monitors, and variables can only be managed directly on the SiteScope machines, and not via Monitor Administration in Mercury Business Availability Center. For details on managing the templates, monitors, and variables directly in SiteScope, refer to the SiteScope documentation.

Other Setup and Configuration Topics

"Prerequisites" on page 80

"Installing Diagnostic Monitor SQL Scripts" on page 82

"Customizing the Diagnostic Monitors XML File" on page 83

"Configuration Settings" on page 87

Installing Diagnostic Monitor SQL Scripts

The Problem Management module includes SQL scripts that are used by a number of diagnostic monitors when gathering information about a problem's suspect CIs.

The SQL scripts must be copied to each SiteScope machine in your system, used to run Problem Management diagnostic monitors.

The following table lists the diagnostic monitors that use an SQL script, and the name of the script used.

Diagnostic Monitor	SQL Script
Oracle Number of Open Cursors	PMOracleAmountOfCursors.sql
Oracle Number of Open Processes	PMOracleAmountOfProcesses.sql
Oracle Number of Open Sessions	PMOracleAmountOfSessions.sql
Oracle Tablespaces	PMOracleTablespaces.sql

To install the diagnostic monitor SQL scripts:

Copy the diagnostic monitor SQL script files included in Mercury Business Availability Center 6.5, to **<SiteScope root directory>\PMQuery** on the SiteScope machine.

Refer to the Mercury Business Availability Center 6.5 readme file for the source location of the SQL script files.

Other Setup and Configuration Topics

"Prerequisites" on page 80

"Installing the SiteScope Monitor Templates" on page 81

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Customizing the Diagnostic Monitors XML File

The link between SiteScope templates, Mercury Application Mapping TQLs, and Problem Management diagnostic monitors is made via an XML file called **on_demand_monitoring.xml**, located in the **<Mercury Business Availability Center root directory>\conf\pm** directory.

To add or change diagnostic monitors for Problem Management, you can customize the on_demand_monitoring.xml file.

Note: It is recommended that you:

- back up the default on_demand_monitoring.xml file, before making any changes to it.
- back up your customized on_demand_monitoring.xml file, after having made changes to the default file.

The on_demand_monitoring.xml file contains the following main sections:

Monitors

In the Monitors section of the diagnostic monitors XML file, there is an entry for each individual monitor that can be run in Problem Management. For each monitor, the following is defined:

- **monitor id.** A unique ID for the monitor.
- **template.** The name of the SiteScope monitor template used to run the monitor.
- **display_name.** The name to be displayed for the monitor.
- **executor_id.** The entity responsible for executing the monitor.
- **weight.** The weight of the monitor to be used when calculating the success rate percentage of the monitor set.
- **monitor_variable name.** A variable name used by the monitor to receive data from a Mercury Application Mapping TQL, and to pass it to a SiteScope template parameter.

➤ **default_value.** A default value for a specific variable.

The following example shows the entry for a monitor called **Port**. The monitor name is displayed as **pm.on.demand.monitor.port**, and it is launched by **SiteScope**. The monitor uses two variables – **host_ip** that has no default value and that will receive a value from a Mercury Application Mapping TQL, and **port_number** that has a default value of **80**.

```
<monitor id="Port" template="Port" display_name="pm.on.demand.monitor.port"
executor_id="SiteScope_Executor" weight="5">
        <monitor_variable name="host_ip" default_value=""/>
        <monitor_variable name="port_number" default_value="80"/>
</monitor>
```

Note: The monitor variable names must match the variable names used in the SiteScope template of the same name as that configured in **template**.

Monitor Sets

In the Monitor Sets section of the diagnostic monitors XML file, you group individual monitors into sets that can be run in a TQL for a specific CI Type. When a monitor set is run, all the individual monitors included in it are run on the CI Type. Each monitor set entry includes the following:

➤ **monitor_set id.** A unique id for the monitor set.

➤ **monitor_ids.** The list of monitors that are included in the monitor set.

The following example shows the entry for a monitor set called **Host_Set**, which includes the monitors **Ping, Port, CPU, Memory and SCRIPT**.

```
<monitor_set id="Host_Set" monitor_ids="Ping Port CPU Memory SCRIPT"/>
```

Note: The monitors included in the monitor set must be defined in the Monitors section of the XML file.

Topology

Problem Management diagnostic monitors use Mercury Application Mapping TQLs to check the validity of monitors to be run on the CI Type, to select specific CIs on which to run the monitors, and to pass values from TQL node parameters to the diagnostic monitors.

Out-of-the-box Mercury Application Mapping TQLs are provided for Problem Management, which can be viewed and managed under **PM_Diagnostic** in Mercury Application Mapping's TQL Builder. You can also create custom TQLs for Problem Management in this location. For details of working with the TQL Builder, refer to the *Mercury Application Mapping User's Guide*.

In the Topology section of the diagnostic monitors XML file, you link a Mercury Application Mapping TQL for a specific CI Type with a monitor set. There is a general topology section, as well as sections for specific topologies such as SAP and Siebel. In each topology section, there is an entry for each CI Type, which includes the following:

- **tql_id.** The name of the TQL that checks the validity of the monitors included in the monitor set to be run on the CI Type, and that passes data from its node attributes to variables used when running the monitors.
- **type.** The CI Type on which the monitor set will be run.
- **monitor_ids.** The name of the monitor set that will be run on the CI Type.
- **src_node name.** The name of the node in the TQL on which to run the monitor, and retrieve parameter values.
- **node name.** The name of a node in the TQL, other than the source node, from which to retrieve parameter values.
- **node_attribute name.** The name of an attribute in one of the TQL's nodes.
- **node_attribute variable.** The name of the variable used to pass data from the node_attribute to the monitor.

The following example shows the entry for a TQL called **PM_Host**, which will run a monitor set called **Host_Set** on the CI Type **host**. In the PM_Host TQL, the source node is Host. The values in its attributes host_dnsname, host_login, and host_password are passed to the monitors via the variables host_name, login, and password respectively. The Host TQL also includes a node call IP. The value in its attribute ip_address is passed to the monitors via the variable host_ip.

```
<monitored_ci tql_id="PM_Host" type="host" monitor_ids="Host_Set">
        <src_node name="Host">
            <node_attribute name="host_dnsname" variable="host_name"/>
            <node_attribute name="host_login" variable="login"/>
            <node_attribute name="host_password" variable="password"/>
        </src_node>
        <node name="IP">
            <node_attribute name="ip_address" variable="host_ip"/>
        </node>
</monitored_ci>
```

Note:

- The name of the TQL in tql_id must be a valid Mercury Application Mapping TQL.
- The name of the monitor set in monitor_ids must be defined in the Monitor Sets section of the XML file.
- The variable names must match the names of the SiteScope monitor template variables.

Other Setup and Configuration Topics

"Prerequisites" on page 80

"Installing the SiteScope Monitor Templates" on page 81

"Installing Diagnostic Monitor SQL Scripts" on page 82

"Configuration Settings" on page 87

Configuration Settings

You can modify a number of configuration settings for Problem Management using the Infrastructure Settings Manager.

Caution: Many of the settings in the Infrastructure Settings Manager should not be modified without first consulting Mercury Customer Support, Mercury Managed Services Support, or your Mercury Services representative. Modifying certain settings can adversely affect the performance of Mercury Business Availability Center.

To edit Problem Management infrastructure settings:

1. Select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**, choose **Applications**, and select **Problem Management**. The Problem Management configuration tables are displayed.

2. Edit a configuration setting by clicking the Edit button for the required setting. The Setting Editor dialog box opens.
3. In the Setting Editor dialog box, enter the required value for the setting, or click **Default** to use the system default value.
4. Click **Save** to save the new value and exit, or **Cancel** to exit without saving any changes.

The following table lists the Problem Management configuration tables that you can edit in the Infrastructure Settings Manager:

Table	Setting	Description	Default Value
Ticketing Integration	Ticketing System URL	The URL for Web access to an integrated ticketing system. Currently, Problem Management integrates with Mercury Service Desk	N/A

Table	Setting	Description	Default Value
General Settings	Allowed CI types for problem creation	A comma separated list of CI types on which problems can be opened.	business, siebel_site, siebel_application, sap_system, sap_application_component, sap_transaction, sap_bp_project, sap_business_scenario, sap_business_process, sap_process_step, monitor
	Bread crumb refresh rate	The refresh rate (in seconds) of the bread crumb that displays the problem CI name, type, KPI type, and status at the top of the Problem Isolation screens.	10
	CI types with KPI data	A comma separated list of the CI types on which a problem can be opened, that can contain KPI data.	logical_application, business,business_unit,customer,line_of_business,business_service_for_catalog, sap_system,sap_bp_project,sap_business_scenario,siebel_site, siebel_application

Table	Setting	Description	Default Value
Diagnostic Monitors	Diagnostic monitors refresh rate	The refresh rate (in seconds) of the relevant diagnostic monitors to be run for a problem.	5
	Connection timeout	The timeout (in seconds) for the diagnostic monitors executor (that is, the entity that runs the diagnostic monitors).	30

Table	Setting	Description	Default Value
Main Suspects	Timebar days back	The number of days prior to the date that the problem was opened, for which data will be displayed in the KPI Over Time report and the Main Suspects list.	4
	Monitors weight	The weight of monitors in the suspect CI weight formula.	16
	Changes weight	The weight of changes in the suspect CI weight formula.	16
	Diagnostic monitors weight	The weight of diagnostic monitors in the suspect CI weight formula.	50
	Impacted monitors weight	The weight of monitors of the impacted CIs in the suspect CI weight formula.	16
	Dependencies monitors weight	The weight of monitors of the dependencies CIs in the suspect CI weight formula.	1
	Dependencies changes weight	The weight of changes of the dependencies CIs in the suspect CI weight formula.	1

Other Setup and Configuration Topics

"Prerequisites" on page 80

"Installing the SiteScope Monitor Templates" on page 81

"Installing Diagnostic Monitor SQL Scripts" on page 82

"Customizing the Diagnostic Monitors XML File" on page 83

6

Problem Management Notes and Limitations

This section includes notes and limitations for Problem Management.

Notes and Limitations

- When upgrading Mercury Business Availability Center 6.2 to Mercury Business Availability Center 6.5, you must set the KPI Over Time flag for existing CI Types configured in Problem Management.

  For details, refer to *Upgrading Mercury Business Availability Center*, available from the Mercury Documentation Portal or from the Mercury Business Availability Center 6.5 Setup download area.

- The TQLs under the PM_Diagnostic folder in Mercury Application Mapping should contain only nodes with one-to-one cardinality.

  In the event of a 1-to-0 cardinality, the associated on-demand diagnostic monitors will fail. In the event of a 1-to-* cardinality, only the first instance will be selected for the on-demand diagnostic monitors execution.

- Diagnostic monitors cannot retrieve a user name and password for manually created CIs. This causes the monitors to fail when run on such CIs. Before running a diagnostic monitor, you can specify a user name and password to be used by the monitor, in the Monitor Parameters Dialog Box. For details, see "Monitor Parameters Dialog Box" on page 60.

- Context sensitive help for Problem Management reports may not work, if the report was activated while the Problem Summary screen was still downloading.

- KPI over time data is displayed in Problem Management for specific CI types, that are configured in the Problem Management Infrastructure settings. You can add CI types for which you want to display KPI over time data, by adding them to the default list in the **CI types with KPI data** setting in the Problem Management Infrastructure settings. For details, see "Configuration Settings" on page 87.

- KPI data over time is saved automatically for CIs of a CI type configured in the **CI types with KPI data** setting in the Problem Management Infrastructure settings, which are created after upgrading to Mercury Business Availability Center 6.5.

For CIs of a CI type configured in the **CI types with KPI data** setting in the Problem Management Infrastructure settings, which were created prior to upgrading to Mercury Business Availability Center 6.5, KPI data over time is not saved automatically and the CI must be manually configured to save such data. For details on configuring a CI to save KPI data over time, see "Saving KPI Data over Time for a CI" in *Application Administration*.

- The Correlation graph currently displays Business Process Monitor KPI measurements only. Real User Monitor KPI measurements are not displayed.
- Problem Management assumes the automatic discovery of ports, windows services, and Unix processes. If these CI types are not discovered, or cannot be found in the CMDB, some of the on-demand diagnostic monitors may fail.

  To fix this problem, remove all port, service, and process nodes from all the TQLs in the PM_Diagnostic folder in Mercury Application Mapping, and remove all references to these nodes from the **on_demand_monitoring.xml** file. For details on customizing the on_demand_monitoring.xml file, see "Customizing the Diagnostic Monitors XML File" on page 83.

  The following is a list of the discovery patterns assumed to be run, in the order displayed, for Problem Management:

  - ICMP_NET_Dis_IpC
  - Host_ID_Discover
  - NTCMD_NET_Dis_Connection
  - SNMP_NET_Dis_Connection
  - TTY_Net_Dis_Connection
  - WMI_NET_Dis_Connection
  - TCP_NET_Dis_Port
  - WMI_HR_Service
  - WMI_HR_Disk
  - WMI_HR_Software
  - TTY_HR_All
  - TTY_HR_Process

- TTY_HR_Software
- TTY_HR_Disk
- FILE_Mon
- TCP_Webserver_Detection
- Apache
- SQL_NET_Dis_Connection

➤ The Problem Management **PM.zip** file includes correlation rules. For the correlation rules to be deployed correctly when Mercury Business Availability Center is started, the Mercury Application Mapping service must already be running.

If the Mercury Application Mapping service was not running when the PM.zip file was deployed, you can redeploy the file once you have started the Mercury Application Mapping service, using the following steps:

1 Access the JMX console using the URL **http://<Mercury Business Availability Center Centers Server machine name>:8080/jmx-console** in your Web browser.

2 Under the **MAM** section, select **Service=Package manager**.

3 In the **deployPackages** operation, enter **1** in the **customer** field, leave the **dir** field empty, and enter **PM.zip** in the **packagesNames** field.

4 Click **Invoke**.

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