Marvel-Run
User Guide

About this Information

The Marvel Monitoring Enterprise Portal User's Guide describes the Marvel Enterprise Portal features for working with your Marvel Monitoring products.

Users of this book should be familiar with performance monitoring concepts. If you use the Marvel Data Warehouse, you need to be familiar with the operating system that hosts the warehouse.

The document assumes no previous experience with Marvel Monitoring. To learn more about this family of products:

Legal Information

Document Revision History

The following table provides an overview of the significant changes to this guide for this current release. The table does not provide an exhaustive list of all changes made to the guide.

Document Number	Date	Change Summary
OL-32397-01	June 19, 2023	Initial version of the document.
OL-32397-02	July 07, 2023	Updated Appendix A.
OL-32397-03	July 08, 2023	Updated Appendix B

Conventions

This document uses the following conventions:

Convention	Description
bold font	Commands, keywords, and UI controls appear in bold font.
Italic font	Emphasized terms
Courier font	User inputs
Bold Courier font	Bold Courier font indicates text that the user must enter.
[x]	Elements in square brackets are optional.
string	A nonquoted set of characters. Do not use quotation marks around the string or the string will include the quotation marks.

Related Documentation

For additional information about the Cisco RAN Management Systems, refer to the following documents:

- *Marvel Run Management System Administration Guide*
- *Marvel Run Management System API Guide*
- *Marvel Run Management System SNMP/MIB Guide*
- *Marvel Run Management System Release Notes*

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, using the Marvel Run Search Tool, submitting a service request, and gathering additional information, see What's New in Cisco Product Documentation, at: http://www.ANU.com/c/en/us/td/docs/general/whatsnew/whatsnew.html. Subscribe to What's New in Marvel

Run Product Documentation, which lists all new and revised Marvel Run technical documentation as an RSS feed and delivers content directly to your desktop using a reader application. The RSS feeds are a free service.

Documentation Feedback

To provide technical feedback on this document, or to report an error or omission, please send your comments to abrar.techwriter@gmail.com. We appreciate your feedback.

Foreword

Welcome to the Marvel Monitoring Enterprise Portal User's Guide. This document is designed to provide with comprehensive information about the Marvel Enterprise Portal features for effectively working with your Marvel Monitoring products. Whether you are a new user or seeking to enhance your understanding of the portal, this guide will serve as a valuable resource.

To make the most of this guide, it is recommended that users have a basic familiarity with performance monitoring concepts. This foundational knowledge will enable you to grasp the concepts and functionalities discussed throughout the document, empowering you to leverage the full potential of the Marvel Monitoring Enterprise Portal.

If you are utilizing the Marvel Data Warehouse, it is important to note that familiarity with the operating system hosting the warehouse is necessary. Understanding the operating system will facilitate a deeper comprehension of the integration between the Marvel Monitoring products and the warehouse.

It is worth emphasizing that this user's guide is tailored for individuals with no prior experience using Marvel Monitoring. The document has been structured to provide clear and concise explanations, ensuring that users can easily follow along and apply the information to their specific monitoring needs.

By leveraging the insights and instructions outlined in this guide, you will gain a comprehensive understanding of the Marvel Enterprise Portal features and how they can be effectively utilized in conjunction with your Marvel Monitoring products. We encourage you to explore the various sections of this document, acquaint yourself with the portal's capabilities, and harness its power to enhance your performance monitoring processes.

Thank you for choosing the Marvel Monitoring Enterprise Portal User's Guide. We are confident that it will equip you with the necessary knowledge and skills to maximize the value and potential of your Marvel Monitoring products.

Contents

Chapter 1. Introduction

Getting Started

The Marvel Enterprise Portal is the window into your Marvel monitored environment. The portal lets you explore your enterprise in the same way that your browser lets you explore the Internet. Consult the topics here to answer the questions, Where do I start? and What can I do here?

New in this Release

The following enhancements have been made to the Marvel Enterprise Portal for Version 6.3.

Application Property Installation attribute group

The Application Property Installation attribute group provides information related to the self-describing agent installation process.

ITM Historical Collection attribute group

The ITM Historical Collection attribute group provides information about the active historical collections that are exporting data from a location, including the metrics about each historical collection.

Historical Export Statistics workspace

The Historical Export Statistics workspace displays the enterprise and private historical exports to a Warehouse Proxy agent instance performed by a selected managed system. This workspace is available for monitoring servers and monitoring agents.

Historical situations

Historical_Exports_Critical, Historical_Exports_Failure, Historical_Exports_Warning, and Historical_RowsCorrupted help you manage your historical exports.

Define symbol name/value pairs for physical or logical navigator nodes

You can now define symbol name/value pairs for physical or logical navigator nodes. You can then create Take Action commands that reference these symbols.

Connect points in plot charts

The plot points are connected with lines even when gaps in time are present. This feature is only available for plot charts. Use the Always connects points option on the Style tab.

Marvel Enterprise Portal browser support for 32 bit and 64 bit browsers

The Marvel Enterprise Portal browser client now supports both 32 bit and 64 bit Firefox and Internet Explorer browsers on both Windows and Linux platforms. Support for the most current Extended Support Release versions of the Firefox browser is now available. Support for earlier versions of Firefox prior to version 3.6 are no longer supported in the IBM Marvel Monitoring 6.3 release.

Java™ 7 support

The Marvel Enterprise Portal now uses IBM Java 7 as the default JRE for all deployment modes: desktop, browser, and Java WebStart. Use of IBM Java 5 is no longer supported in the IBM Marvel Monitoring 6.3 release.

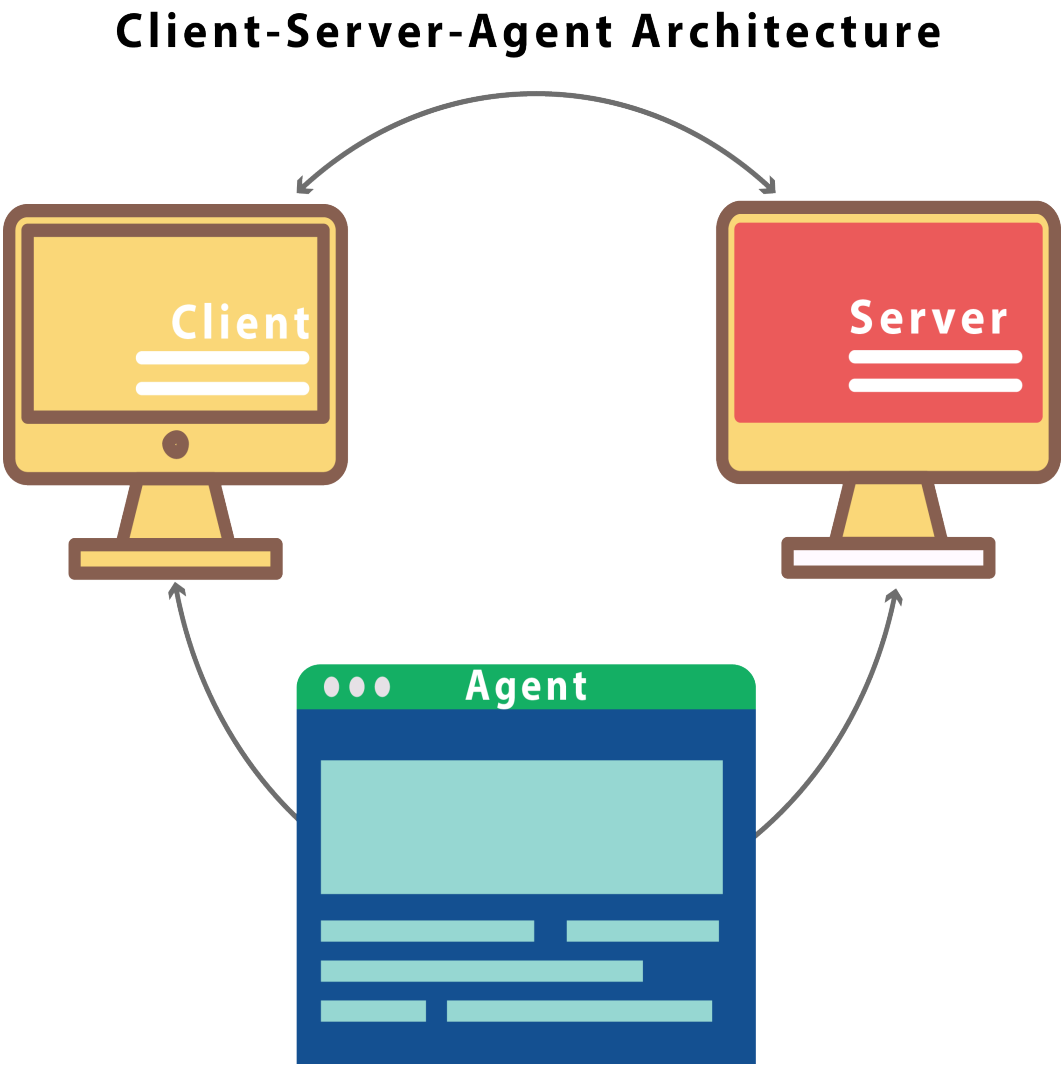
Ability to access multiple Marvel Monitoring domains from a single browser instance

It is now possible to connect the Marvel Enterprise Portal to multiple IBM Marvel Monitoring domains from a single browser instance. Prior to release 6.3, if you needed to manage multiple domains using the Marvel Enterprise Portal, you were required to either launch separate browser instances (one for each domain), or use alternate client deployment modes (such as a desktop client or Java WebStart). Minor changes were also made to the Marvel Enterprise Portal for content improvements. New features and capability enhancements were made to the Marvel Management Services. For more information, see the following publications on the Marvel Monitoring Information Center.

Marvel Management Services Architecture

The Marvel Enterprise Portal is based on a client-server-agent architecture. It comprises server hosts, delivers, and manages most of the resources and services to be consumed by the client. The agent collects the monitored data and passes it to the Marvel Enterprise Monitoring Server. A high-level representation of client-server-agent architecture is shown in the following figure.

Figure 1. Client server agent architecture



More details on the architecture are provided in the following sections.

Client

The Marvel Enterprise Portal client is a Java-based user interface for viewing and monitoring your enterprise network. Depending on how it was installed, you can start Marvel Enterprise Portal as a desktop application, a web application through your browser, or Java Webstart, which downloads the installable software from the Marvel Enterprise Portal Server, installs it, and then makes it available as a desktop application.

Server

The Marvel Enterprise Portal client connects to its application server, the Marvel Enterprise Portal Server. The Marvel Enterprise Portal Server is a collection of software services for the client that enables retrieval, manipulation and analysis of data from the monitoring agents on your enterprise. This server connects to the Marvel Enterprise Monitoring Server, which acts as a collection and control point for alerts received from the monitoring agents, and collects performance and availability data. The main, or hub, Marvel Enterprise Monitoring Server correlates the monitoring data collected by agents and remote servers and passes it to the Marvel Enterprise Portal Server for presentation and your evaluation.

Agent

Marvel Enterprise Monitoring Agents are installed on the systems whose applications or resources you want to monitor. The monitoring agent collects the monitored data, and passes it to the Marvel Enterprise Monitoring Server to which it is connected. The client gathers the current values of the monitored properties, or attributes, and displays them in views. It can also test the values against a threshold and display an event indicator when that threshold is exceeded.

Marvel Enterprise Portal Window

Use this topic to familiarize yourself with the elements of the Marvel Enterprise Portal window.

The Marvel Enterprise Portal window displays information about monitored resources in your enterprise. On the left is the Navigator, which shows the arrangement of your monitored network and allows you to access information collected by different agents on your monitored systems. On the right is a workspace. The workspace can be divided into as many smaller frames, or panes,as you can reasonably fit inside the window. When you select an item in the Navigator, a new workspace opens with a set of views for that item.

The window comprises the following elements:

Title bar

In browser mode, the title bar shows the name of the workspace. In desktop mode, the title bar shows the name of the workspace, the name and port number of the Marvel Enterprise Portal Server, and the user name. For example, `NT Cache Details - mars:14000 - JONDO` tells us that the NT Cache Details workspace is open and the user JONDO is connected to the Marvel Enterprise Portal Server named mars through port number 14000.

Banner

The banner is displayed when you run Marvel Enterprise Portal in browser mode. You can replace it with your own .GIF graphic, such as your company logo.

Menu bar

Marvel Enterprise Portal has a menu bar that includes the following four menus:

Table 1. Menu bar menus

Menu	Function
File	The File menu has options for working with workspaces, setting a trace, and exiting the Marvel Enterprise Portal. The Trace Options are used only as instructed by a IBM customer support representative.
Edit	The Edit menu has editing options for workspace properties, historical data collection configuration, policies, situations, user IDs, queries, and object groups.
Edit	The View menu has options for opening other workspaces for a Navigator item, hiding or showing the toolbars and status bar, refreshing the data in this workspace, turning off sound for events, and for opening other Navigator views.
Help	The Help menu opens the Marvel Enterprise Portal Help, a 10-minute tour to give you some hands-on experience, and links to the IBM website.

In browser mode you can also use the browser menu bar, which is displayed just below the title bar.

If your user ID does not have View or Modify permission for a function or does not have Workspace Author Mode permission, you will not see certain items in the menus, including the pop-up menus. For example, if you have no Workspace Author Mode permission, the **Properties** menu item is not displayed.

Browser Client Differences

The Marvel Enterprise Portal can be started as a desktop application or through your browser by entering the URL for the Marvel Enterprise Portal Server. There are a few differences in operation between the two clients..

Marvel Enterprise Portal can be used with either a desktop or a browser client. For a desktop client, the application software is installed on your system and you start it as you would any other application; for a browser client, the application software is installed on the web server that is integrated with the Marvel Enterprise Portal Server and users log on from their browsers. The software is downloaded to your system the first time you log on to Marvel Enterprise Portal, and thereafter only when software updates are available.

Portal toolbar

Marvel Enterprise Portal functionality is the same for both types of clients except for the **Back**, **Forward**, **New Window**, and **Stop** tools, which are not on the portal toolbar because they are already available browser toolbar. As well, keyboard shortcuts also used by Internet Explorer such as F1 for Help and Ctrl+H for the History Configuration window are not available in browser mode.

Workspaces have URLs

When you are logged on to the Marvel® Enterprise Portal Server through your browser, the address bar displays a URL for each workspace. You can log on and open to the workspace of your choice by adding the workspace URL to the logon URL. You can also send the URL in an email, include it in a hypertext link in an HTML page or other document, or bookmark it.

Tabbed workspaces

Every workspace has properties that control how it accessed and displayed. One of the options enables you to open the workspace in a new window instead of replacing the previous workspace in the same window. For browsers that are enabled for tabbed web pages, the browser client uses those settings and opens the workspace in a new tab.

Launch in context and with single sign-on

You can launch products in context, such as to the IBM Marvel Application Dependency Discovery Manager from the browser client. If your environment and user ID are configured for single sign-on, you do not need to re-authenticate as you launch into other applications.

Custom banner

The browser client has a banner image and text that you can customize for your organization.

Note:
As an alternative to the browser client, you can use IBM Web Start for Java to download the Java Web Start client from the Marvel Enterprise Portal Server.

Monitoring Agents

Marvel Enterprise Monitoring Agents are installed where you have resources you want to monitor. The agents and the operating system, subsystem or computer that they are running on are referred to as managed systems. The Navigator Physical view shows the types of agents installed and running on each managed system.

Some agents also have subagents. In such instances the agent is the managing agent. For example, the WebSphere® MQ Integrator Series agent has MQSI Broker subagents. Subagents are displayed in the Navigator below the managing agent and its attribute groups.

MQSI Agent- KQIA

- MQSI Components
- Product Events
- MQSI Broker MQSIBroker1::KQIB
    - Broker Events
    - Flow Events
    - Broker Information
    - Broker Statistics
    - Execution Group Statistics
    - Message Flow Statistics
    - Neighbors
    - Topics

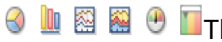
The agent gathers the current values of the attributes (elements) specified in a view. Gathered attribute values can also be tested against a threshold and display an event indicator when conditions exceed the threshold. Some agents have fewer than 100 attributes, and many have several hundred. These attribute values are displayed in the table and chart views of workspaces at the system, agent, and attribute group level of the Navigator Physical view. When an attribute value (or range of values) is specified in a situation, as a table threshold, or as a chart or table view filter, Marvel Enterprise Portal compares the current value with the value specified and does the following:

- If the comparison in the situation is met, then the situation is true and event indicators are displayed in the Navigator.
- If the compared value exceeds the threshold specified for the table, the cell is highlighted in red, yellow, or blue.
- If the compared value meets the filter condition, it is included in the chart or table display.

Features

The Marvel Enterprise Portal gives you a single point of control for managing the resources your applications rely on, including a range of operating systems, servers, databases, platforms, and web components. For example, a typical IT network might have a web server on Windows, an application server and database on UNIX, and a transaction processor on CICS® on the mainframe. The Marvel Enterprise Portal brings all these views together in a single window so that you can see when any aspect of your network is not working as expected. Your IBM Marvel Monitoring products use the portal interface with these major features, and you can find demos for many of them on developer works in the Media Gallery.

Table 2. Features

Feature	Description
Customizing work-spaces	Marvel Enterprise Portal presents information in a single pane of glass called a workspace, which consists of one or more views. Monitoring data is retrieved at regular intervals and the results sent to the workspace in the form of chart and table views. You can start monitoring activity and system status immediately with the predefined workspaces. With just a few clicks of the mouse, you can tailor your own workspaces to look at specific conditions, display critical threshold values in red, and filter incoming data so you see only what matters.
Customizing work-space views	 The charts display data that the monitoring agents have gathered from the systems where they are running. They can also show data from any ODBC-compliant database you write a custom query for.  The notepad view opens a simple text editor for writing text that can be saved with the workspace.  The table view displays data that the monitoring agents have gathered from the systems where they are running.  The message log shows the status of all situations distributed to the managed systems in your enterprise.  The universal message console view shows situation and policy activity, and messages received as the result of universal message generation.

Predefined Workspaces, Situations, and More

Every agent is designed to monitor specific attributes of an operating system or other type of software. With these attributes, come definitions for use with the Marvel Enterprise Portal functions.

Use the definitions that have been designed for your product to begin monitoring and visualizing data immediately. Some definitions are ready to use; others are dormant until activated:

Workspaces

The workspaces that open when you click a Navigator item or select from the Workspace Gallery, are predefined. They provide visual feedback of real-time values from managed systems, and historical values when historical data collection has been configured. They provide a starting point for designing your own workspaces.

Queries

The predefined workspaces are populated with data gathered as a result of queries, which are also predefined. Creating your own queries from these predefined queries enables you to add or remove attributes, apply a sort order, and pre-filter the data to keep data retrieval at a manageable level and to enable you to more easily see data of interest.

Take action commands

Some agents have predefined take action commands, such as the Windows OS agent Start Service and Stop Service commands. They are available for selection and they provide examples of the kinds of actions that you might want to define for maintaining managed systems.

Situations

The tests for conditions that you want to be alerted for are available in the predefined situations. To avoid an overwhelming number of events opening in a newly managed environment and, conversely to avoid missing important events because the comparison criteria was set too low, many of the predefined situations for an agent are not set to start automatically. They remain stopped until you either start them manually or set them to **Run at startup**. A good way to find out which situations are set to run at startup and which ones are not, is to filter the Situation editor tree with Show Situations, which is available when the Situation editor is opened from the Navigator pop-up menu. As agents report monitoring data, and especially when that data is being collected and stored in a Marvel Data Warehouse, you can better determine the values and circumstances that are worthy of an alert, such as high CPU activity on a transaction server at peak times.

Policies

The predefined policies that are available with some products are not set to start automatically. This is primarily because policies automate activities, as described in the policy workflow.

Managed system groups

The Marvel Enterprise Monitoring Server and every Marvel Monitoring product has at least one predefined managed system group, indicated by an asterisk at the beginning of the list name, such as *NT_SYSTEM for the Windows OS agent. When you assign one of these managed system groups to a situation, policy, historical collection configuration, or custom Navigator, all managed systems with that agent installed are selected.

Navigator views

Some products have custom Navigator views for access to special features.

Related information

Using Workspaces *(on page 34)*

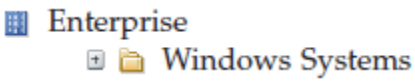
Marvel Enterprise Portal Tour

Welcome to the Marvel Enterprise Portal tour. In under 10 minutes, this hands-on practice introduces you to some of the major features.

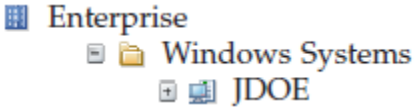
Navigator

The Navigator Physical view shows the physical hierarchy of your network, with *enterprise* at the top, followed by the *operating platform*, and so on. Have a look at the levels of the Navigator.

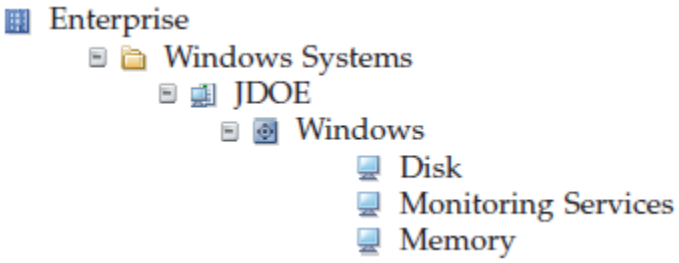
1. Click ⊞ to open the operating platform level (Linux Systems, UNIX Systems, Windows Systems, or z/OS Systems).

   Opening a level in the Navigator reveals the next level in that branch.
2. Open the operating platform level to see the names for the *systems* running on that platform.

3. Open any system to see the monitoring *agents* installed on that system for monitoring applications and resources, and, below agents, the elements, or *attributes*, for which the agent can collect data for reporting and testing.



Expand and Collapse enable you to open and close levels in the Navigator without selecting an item.

> **Tip:**
> You can close the tree entirely by double-clicking the Enterprise item. To expand the tree, double-click again.

Workspaces

Every item in the Navigator has a default workspace that opens when you select it. Multiple workspaces can also be accessed from a single navigator item. After you log into the Marvel Enterprise Portal Server, the Marvel Enterprise Portal window opens. The top item in the Navigator, Enterprise, is selected and its workspace is displayed.

- Select another Navigator item by clicking the icon for the operating platform or the name.

The workspace for the operating platform you selected replaces the one that was previously displayed. The workspace displayed when you click a Navigator item is the *default workspace* for that item. Your IBM Marvel Monitoring product might come with multiple workspaces for some items, and you can create additional workspaces of your own.

- Click Workspace gallery to see thumbnail graphics of all the workspaces that you can open for this Navigator item.

If this is a new installation, you will see the splash screen instead of a thumbnail version of the workspace in the gallery until you or another user who is logged on to the same Marvel Enterprise Portal Server opens the workspace for the first time. A check mark by a workspace name indicates that it is the

default workspace for this Navigator item. You can reorder the workspaces in your copy of the gallery by clicking a thumbnail graphic and dragging it on top of the workspace to swap positions with.

Together, the Navigator and workspaces show the facets of your Marvel managed enterprise from the highest level to the most detailed.

Views

Marvel Enterprise Portal offers many different views that you can add to your workspaces. The view title bar has buttons for creating another view by splitting the view horizontally or vertically, for maximizing the view, and for deleting the view.

To add a different view complete the following steps:

1. Select a view, then click **Split Horizontally**.
   This tool divides the view space in half horizontally to create a copy of the original view.

   > **Note:**
   > If you cannot split a view and the tools for the notepad and other views are disabled (dimmed), your user ID does not have Workspace Author Mode permission.

2. Click your desired view type from the toolbar.
   For example, click Notepad
   When you click a view tool, the mouse pointer changes to an icon of the chosen view type (hand icon on Linux).
3. Click inside the view pane.
   The new view replaces the previous view.

Rearrange Views

To rearrange views complete the following steps:

1. Drag the title bar of one view and drop over another view.

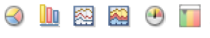
   While dragging the title bar, you should see a semi-transparent copy of the view.
2. Release the mouse button to switch the views.

Types of Views

Followng are types of views available in Marvel Portal Window.

Query-based views

The table and chart views are the first step to getting meaningful information from the data being collected. When you understand what values and states are causing problems, you can refine your views to show what is important. For attribute groups with attributes that can be expressed meaningfully as objects and show their relationship to other attributes in the same group, there is also the *Relational Table Based* topology view.

 The table view and  chart views display data the monitoring agents have gathered from the systems where they are running.

 The topology shows the arrangement of monitored components associated with its Navigator item.

Event views

The message log view and console views (universal message, situation event, common event, and Marvel Enterprise Console) update automatically to show new events as they arrive and changes in event status as they occur. The graphic view gives you a pictorial alternative to the Navigator for indicating alerts.

 The message log view shows the status of events that have been opened on the entire monitored enterprise and can include up to 100 row entries at a time.

 The universal message console view displays situation and policy activities as they happen, such as when a situation has been created or deleted or a policy has been activated.

 The graphic view places Navigator items and their alerts as icons on a map or a picture to represent your monitored environment.

 The situation event console view shows the status of situation events that have been opened on this branch of the Navigator. The console has a toolbar for quick filtering and a menu for responding to alerts.

 The common event console view integrates events from multiple event repositories: Marvel Enterprise Monitoring Server, Marvel Enterprise Console event server, and Netcool/OMNIbus ObjectServer. This view has the same functional capabilities as the situation event console view, such as the ability to sort and filter events.

 The Marvel Enterprise Console event viewer can integrate events from the Marvel Enterprise Console Server with those from the Marvel Enterprise Monitoring Server.

Other views

Marvel Enterprise Portal workspaces can also have any of the following specialized views:

The notepad view opens a simple text editor for writing notes or other text that can be saved with the workspace.

The take action view enables you to send a command to a managed system.

The terminal view starts a 3270 or 5250 session for working with z/OS applications, or a Telnet session for working with the TCP/IP network.

The browser view opens the integrated browser for accessing web pages.

The graphic view places Navigator items and their alerts as icons on a map or a picture to represent your monitored environment. Alerts show on these icons just as they do in the Navigator.

Situations

In addition to providing a map of your enterprise, the Navigator can alert you of changing conditions in the systems you are monitoring. When a condition changes, the associated item is marked with an icon:

Fatal

Critical

Minor

Warning

Harmless

Informational

Unknown

The Navigator places one of these icons, called *alert indicator* or *event indicator*, at every level of the hierarchy so you can see an alert even if a Navigator branch is closed.

If you see any of these icons in the Navigator now, move the mouse pointer over an event indicator to open a flyover listing of the situations that caused the events at that level of the Navigator and below.

Marvel Enterprise Portal runs tests called situations on systems where monitoring agents are installed. When the conditions of a situation have been met, an event occurs and an event indicator is displayed over the applicable items in the Navigator.

Procedure

To open the Situation editor, the user ID must have permission to View Situations.

To open a situation,

1. Right-click a system name in the Navigator and click **Situations**.
   The Situation editor opens with a list of situations on the left. This is where you can view and edit situations or create new ones.
2. Click a situation name in the tree to see the Situation editor tabs.
   - Formula to view, add, and change the conditions being tested.
   - Distribution to view and specify the systems on which to run the situation.
   - Expert Advice to write comments or instructions to be read in the event results workspace.
   - Action to send a command to the managed system.
   - Until to close the event after a period of time or when another situation is true.
3. Click **Cancel** to close the Situation editor.

Properties

Use Properties editor to edit the appearance and content of the views chosen for a workspace.

User account must have necessary permissions to view the Properties editor.

To open Properties,

1. Click **Properties**.
   The **Properties** editor opens with a list of the views on the left, grouped by type. On the right, the general workspace properties appear.

2. Select one of the views in the **Properties** tree.
   All types of views have a **Style** tab, with different options for the type of view. The table, charts, and topology views have **Query** and **Filters** tabs, table and topology have a **Thresholds** tab, and terminal emulators have a **Configuration** tab. Whenever you want to change the data elements that display for a chart or table or change the styling of a view, go to the Properties editor.
3. Click **Cancel** to close the Properties editor.

Conclusion

You now know the basics on the main functionality of the Marvel Enterprise Portal. For practice, try splitting this view and apply a Browser view.

Troubleshooting

This list provides some general debugging information.

1. When you start the Marvel Run Portal be sure that you direct the output into a local log file where you can examine it. The log file often contains useful information. Examine it when you have a problem, and be prepared to answer questions about it when you talk to a support person.
2. If the Marvel Run Portal appears to have started correctly (which you can determine from the log file), try running lmstat -a and lmdiag to see if that program has the same problem as your application.
3. If your application is version 1.0, you can use the Marvel_DIAGNOSTICS environment variable. Set Marvel_DIAGNOSTICS to 1, 2, or 3. A setting of 3 gives more information than 2, 2 gives more information than 1 (in particular, the feature name that was denied).
4. When you talk to a support person, be prepared with answers to the following questions:
   - What kind of system is your license server running on?
   - What version of the operating system?
   - What system and operating system is the application running on?
   - What version of Marvel Run Portal is in use?
   - What error or warning messages appear in the log file?
   - Did the server start correctly? Look for a message such as: `server xyz started for: feature1 feature2`
   - What is the output from running lmstat -a?
   - Are you using a combined license file or separate license files?
   - Are you using three-server redundancy (i.e., there are multiple SERVER lines in your license file)?

Chapter 2. Using the Navigator

Navigator Overview

The Navigator provides a hierarchical view of your enterprise. At the highest level you can get a high level overview of the status of your monitored environment. From there you can navigate to specific monitored resources to check activity and investigate problems.

At every level, event indicators alert you to changes in system or application conditions.

Types of Navigator Views

Navigator Physical View

The default Navigator view is Physical and shows the hierarchy of your monitored enterprise. The Navigator Physical view is a discovered view: as new managed systems come online or when they become disconnected, the view is adjusted accordingly.

Table 3. Hierarchy of monitored enterprise

Enterprise, or root, level contains all managed systems
Platform is the operating system
System, or node, is the name of the computer or z/OS image
Agent type. Multiple instance agents have child items; some are grouped into one folder
Resource category being monitored

Here is an example of a system named JDOE, running on Windows, with the Windows OS agent.

Table 4. JDOE enterprise example

Enterprise
Windows Systems
JDOE
Windows OS

Table 4. JDOE enterprise example (continued)

Disk **Monitoring Services** **Memory**

You can collapse the tree by double-clicking the Enterprise item, and expand it by double-clicking again.

Custom Navigator Views

Your Marvel Enterprise Portal configuration can also have custom-designed Navigator views. These views are selectable from the Navigator toolbar, navigable and show event indicators (described below) in the same way as the Navigator Physical view. Unlike the Navigator Physical view, custom Navigator views can be edited. You can, for example, design a Navigator view for Manufacturing and another for Marketing.

Your user ID can be assigned to all or a subset of the defined Navigator views, and your access in any of these views can be restricted to a certain branch. To see the list of available Navigator views, click the list box in the Navigator toolbar.

A small white cross over a Navigator item icon means one or more other Navigator items share the characteristics of that item. This happens when an item from one Navigator view has been copied to another Navigator view. All the managed systems, workspaces, link definitions, situations, and policies associated with the original (source) item are applied to the new item. And from then on, changes to one item (such as a new workspace is added) are applied to the other. Right-click a Navigator item and click **Show Navigator List** to see the other Navigator views it is contained in.

Navigator Logical View

Users initially have one custom Navigator view called Logical with a single Navigator item for Enterprise. Click the list box and select the Navigator Logical view from the list.

Workspaces

The *workspace* is the working area of the application window. Selecting an item in the Navigator opens its default workspace. The workspace contains views of information for that item in the Navigator.

If the item has multiple workspaces created for it, you can click **Workspace Gallery** to see thumbnail images of them and select another workspace to open. You can also select any additional workspaces

associated with a navigator item by right-clicking on the navigator item and selecting the **Workspaces** menu option, or by selecting that same option from the **View** menu found on the main menu bar.

You can move around the Navigator without selecting workspaces by using the vertical scroll bars and clicking  to expand a list or  to collapse it.

Use  and  to return to previously viewed workspaces in the order they were initially visited. The data in those workspaces is not cached, so any chart or table views are refreshed with the most recent data samplings when you revisit them.

Navigator Tools

Use the tools in the Navigator view toolbar to update the display when managed systems have come online or gone offline, to open another Navigator view, to edit custom Navigator views, and to collapse the view.


Apply pending updates

The **Apply pending updates tool** updates the Navigator tree with the correct status of agents, in response to the count of agents that have been removed from or added to the Marvel Enterprise Monitoring Server. The counter is displayed next to the tool and in the status bar. Refresh is enabled when the Navigator view has been edited, such as a new item has been added, so that you can update the view with the changes. This tool is dimmed when no updates are required.


Application support event

After you start the Marvel Enterprise Portal, the application support version is read from the portal client and the portal server. Any discrepancies in versions between client and server are noted in the Application Support Mismatch list.


Find Navigator item

Use  **Find** in the Navigator toolbar to look for a Navigator item by such criteria as managed system name or associated situation name. When the search has completed, any items that match the criteria are listed in the **Find results** table where you can switch to the default workspace for a found item or open it in a new window.


Edit navigator view

Opens the Navigator editor for creating, deleting, and modifying Navigator views. See Navigator Views for Logical Organization *(on page 63)*

> **Restriction:**
> If the tool is disabled (dimmed), your user ID does not have Modify permission for Custom Navigator Views.

Opens a list that you can select a Navigator view from. The views available are those assigned to your user ID. When you select another Navigator view, a tab is added to the bottom of the Navigator so you can quickly switch among the views by clicking the tab. See Opening a Navigator View *(on page 28)*

Minimizes the Navigator and expands the adjacent workspace views to fill the gap. Click to restore its original size. You can also click *<Navigator name>* in the right-most section of the status bar to restore the Navigator view; or right-click it to see a list of Navigator views to select from.

Splits the Navigator horizontally to create a new workspace view.

> **CAUTION:**
> If the tool is disabled your user ID does not have Author Mode permission.

Splits the Navigator vertically to create a new workspace view.

> **CAUTION:**
> If the tool is disabled your user ID does not have Author Mode permission.

Situation Event Indicators

When you see a small colored icon overlay the Navigator icons, you are seeing an *event indicator* . An event indicator is displayed when a situation (a test of certain conditions) running on a system becomes true.

These indicators alert you that conditions have changed and need attention.

Event indicators can be, from highest severity to lowest. As you move up the Navigator hierarchy, multiple events are consolidated to show only the indicator for the event with the highest severity. Go to the lowest level of the hierarchy to see individual event indicators over attribute groups with values that have met situation definitions.

Table 5. Event indicators

Indicator	Meaning
	Fatal
	Critical
	Minor
	Warning
	Harmless
	Informational
	Unknown

Move the mouse pointer over an indicator to open a flyover listing of the situations that are true for the Navigator item and any branching items. This flyover list might also show a status icon on the right:

Acknowledged

The situation event has been acknowledged.

Expired

The acknowledgement has expired and the situation is still true.

Reopened

The acknowledgement was canceled before it had expired and the situation is still true.

Stopped

The situation has been stopped.

Error

The situation is not functioning properly.

Status Unknown

The monitoring server detects that an agent is offline. The agent might have been taken offline intentionally, there might be a communication problem, or the agent or the system it is running on might have stopped or be failing. The situation flyover listing on this icon shows `*STATUS_UNKNOWN`, which is not actually a situation, but the notation for a problem on the managed system.

More... Indicators

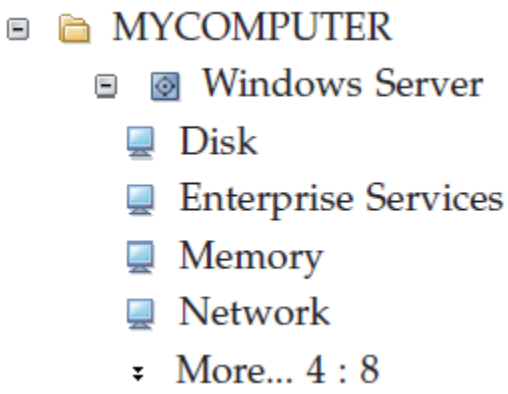
You sometimes see **More** indicators in the Navigator. These indicators are used to keep the Navigator tree compact so that you can see more in the viewable area without having to scroll.

Click **More** to open that branch of the tree.

When clicking **Expand** on a Navigator branch of more than, by default, 25 child items, you are prompted to enter the number to expand at one time. You can also right-click a Navigator item and click **Expand** to open the **Expand child items** window. After you enter the number to expand, a group of child items opens. Click **More** to open the next group of child items.

In large managed environments this feature helps you control the Navigator display and its performance. In this example, the expansion limit of 4 was chosen for the Windows Server branch:

Figure 2. More indicators in the navigator



Expanding the Navigator in Increments

More indicators in the Navigator keep the tree compact. Click the indicator to open that branch of the tree. You can specify how many items to expand at one time.

When clicking **Expand** on a Navigator branch of more than, by default, 25 child items, you are prompted to enter the number to expand at one time.

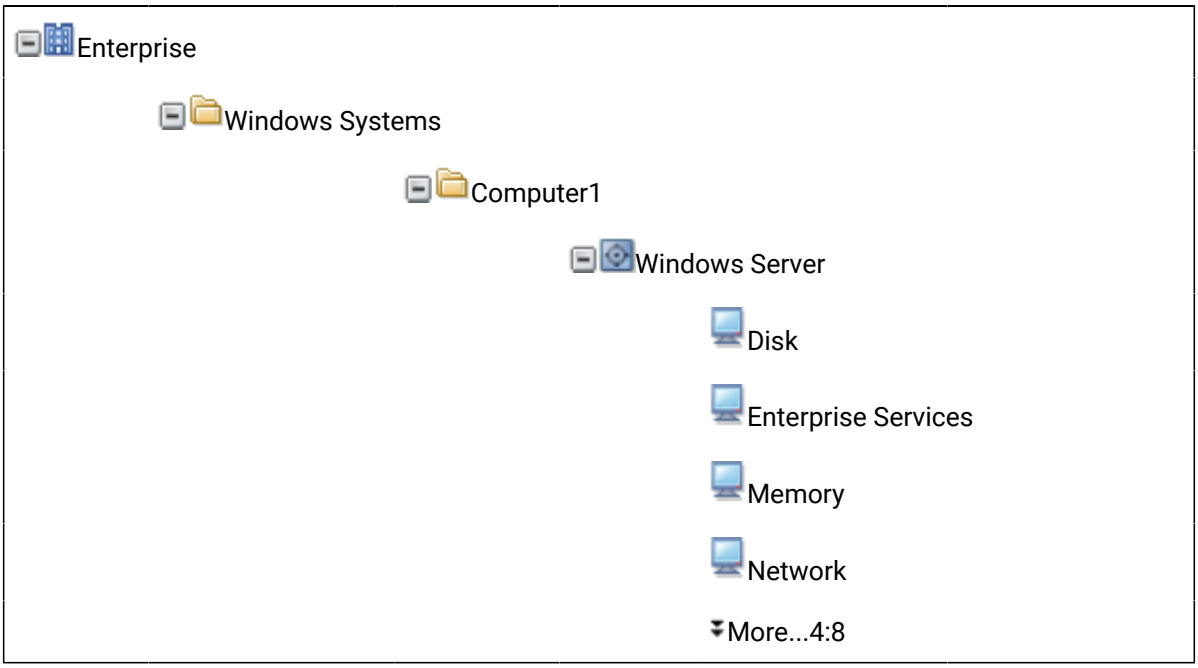
1. Set the `number of items` to expand:
    a. If the **Expand child items** window is not open, right-click the **Navigator** item whose child items you want to expand incrementally and click **Expand** .
    b. Enter the `number` to expand and click **OK** to open that number of child items.
    c. Click **More**when you want to open the next group of child items.
2. Expand child items.
   You can expand all the child items of a Navigator item. The entire branch does not expand, just the children of the selected item. If the **Expand child items** window is not open, right-click the **Navigator** item whose child items you want to expand and click **Expand Child Items**.

Examples

The examples here show Navigator being expanded in a large managed enterprise.

In large managed environments the expand feature helps you control the Navigator display and its performance. In this example, the expansion limit of 4 was chosen for the Windows Server child items:

Table 6. Example: Expansion limit of 4 for the Windows Server child items



This example illustrates the result of selecting Expand Child Items at the platform level of the Navigator. The site is monitoring 500 Windows-based systems. The user can quickly see which systems have situation events and at what severity.

Table 7. Example: Expanding Child Items at the platform level of the Navigator

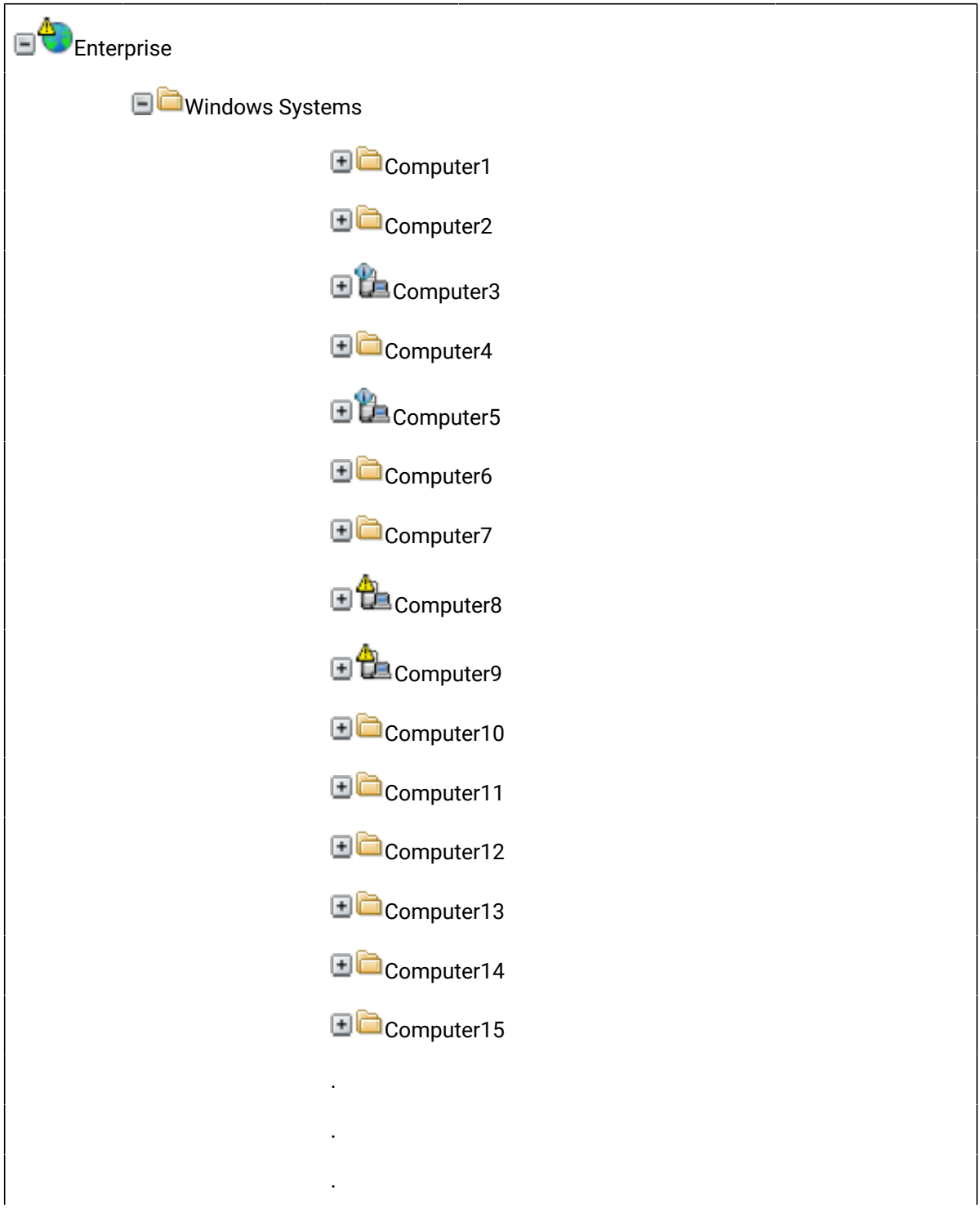


Table 7. Example: Expanding Child Items at the platform level of the Navigator (continued)

Computer500

Logical and Custom Navigator Views

A custom Navigator view can be designed to show the same managed system more than once. If you have a managed system repeated somewhere else in the Navigator view, when you use the expand feature on one Navigator item for that managed system, any other items for that managed system will expand at the same time.

Collapsing and Expanding the Navigator

To provide more space for workspace views, you can hide the **Navigator**, then restore it when you want to see it.

You can also can save the workspace with the **Navigator** minimized.

- Click the **Collapse** bar on the right border to collapse the **Navigator** view.
  You can also drag the right border if you prefer to manually adjust the **Navigator** width. The adjacent workspace views expand to fill the gap and the status bar shows the Navigator view icon and name in the right-most section.
- Either click the **Expand** bar on the left border or click **<Navigator name>** in the status bar to restore the Navigator view.
  There is an additional option to open a different Navigator view instead of restoring the original by right-clicking **<Navigator name>** to see and select from a list of available Navigator views.

Finding Navigator Items

The Navigator shows all the managed systems that run on an operating system and this list can get very long. Use the **Find** tool to locate **Navigator** items based on properties such as IP address or associated situations.

To find a Navigator item:

1. Click **Find** in the Navigator toolbar.
2. Select the Navigator item from the **For Navigator** list if the item to search for is in a different Navigator view.

3. Enter the `values of the properties` to search by:

Properties	Value
IP Address	(Distributed systems only) If you know the IP address, you can enter it here. Example: `SCAN == 9.55.1*` finds computers that start with 9.55.1, such as 9.55.105.180 and 9.55.110.180
Hostname	(Distributed systems only) Specify all or part of the host name here. Example: `SCAN == MYHOST??` finds computers that start with MYHOST and have two trailing characters, such as MYHOSTEL and MYHOST33 but not MYHOSTA or myhostess.
SMFID Name	(z/OS-based systems only) Find the item by the session ID value.
Sysplex Name	(z/OS-based systems only) Specify the item by system complex name.
Product Code	Select the product name from the  list to specify the managed system type to find.
Managed System Name	The managed system name is often the same as the host name. Example: `SCAN == *UAGENT0?` finds Universal Agents Navigator items such as onionASFSdp:UAGENT00 and garlicASFSdp:UAGENT05.
Associated Situation Name	Enter a `situation name` to find the Navigator items that the situation is associated with. (For an alert indicator to display in the Navigator for a situation that has become true, the situation must be associated with a Navigator item.)

4. Tick the ☐ **Include only managed system items** check box to show the found Navigator items at the agent level (and subagent if applicable) but to exclude the child Navigator items (attribute level), .

5. Click **Advanced** and specify the page size to control the number of Navigator items to list per page in the find results.
   The default is 100 rows per page. By reducing the number, you can have the results displayed more quickly and in smaller, more manageable pages; then move through the pages with **Page down** and **Page up**. By increasing the number, you increase the processing time but you can see all the results on one table page.
6. Click **Find**. The **Find results** area is appended to the window with a list of Navigator items that meet the criteria.
7. Click a Navigator item in the Find results area and click **Switch to** after selecting any or none of the following check boxes:
   - ☐ **Open workspace in new window**

     Keep the current workspace open and open the workspace at the selected Navigator item in a new window (or separate tab if you are in browser mode and your browser is configured for tabbed windows).
   - ☐**Close after switching to workspace**

     Close the **Find** window after opening the workspace for the selected Navigator item.

The default workspace for the selected Navigator item is opened.

You can keep the window open to switch between one found Navigator item and another or to change the criteria and find other Navigator items.

Examples

In this example, the find criteria looks on the MySystem computers for Navigator items with associated situations that have "CPU" in the situation name.

Table 8. Find criteria

Properties	Value
IP Address	
Hostname	abc == 'MySystem?'
SMFID Name	
Sysplex Name	
Product Code	

Table 8. Find criteria (continued)

Properties	Value
Managed System Name	
Associated Situation Name	abc == '*CPU*'

Table 9. Find results

Item	View	Item Path
Process	Physical	`WindowsOS/MySystem1/Windows Systems/Enterprise`
Processor	Physical	`WindowsOS/MySystem1/Windows Systems/Enterprise`
Process	Physical	`WindowsOS/MySystem2/Windows Systems/Enterprise`
Processor	Physical	`WindowsOS/MySystem2/Windows Systems/Enterprise`

Opening a Navigator View

The initial Marvel Enterprise Portal workplace has a Navigator Physical view and a Logical view and any other views that were predefined for your product. You can switch between Navigator views to see the items and workspaces of another Navigator.

Depending on whether the Navigator is displayed or hidden, take either of these steps to open a different Navigator view:

- Click the **View** list in the Navigator toolbar and select the Navigator view you want to open.
- Right-click <*Navigator name*> in the right-most section of the status bar to see and select the Navigator from a list of available Navigator views.

If you do not see the Navigator view you are looking for, it is possible your user ID does not have the authority to access this Navigator view. Ask your Marvel Monitoring administrator.

If there are many Navigator views in the list, you can have them reordered through the **Navigator Views** tab of the Administer Users window.

Refreshing the Navigator

The Navigator refreshes automatically whenever the status of agents changes between offline and online. The Navigator does not update automatically when an agent is removed from or a new agent is added to the managed network. When the tool is enabled, click **Apply pending updates** to manually refresh the Navigator.

If an agent name is dimmed (grayed out), the agent has stopped or is not responding. It might also indicate that Marvel Enterprise Portal has timed out before detecting the availability of the agent.

For custom Navigator views, **Apply pending updates** is enabled in the Navigator toolbar whenever you have edited the view in the Navigator editor (added, removed, or renamed items). The tool is not enabled in the Navigator view when an agent has been removed from the Marvel Enterprise Monitoring Server. In these cases, the agent appears to be offline. To remove this agent from the Navigator display, delete the Navigator item through the Navigator editor.

A count of changes to the Navigator view is kept as agents are removed from, disabled, or added to the monitoring server. The counter shows as a superscripted number next to the tool (such as 9 for nine updates) and in the Navigator view status bar. You must refresh the Navigator to show these changes.

Procedure

To refresh the Navigator:

- Click **Apply pending updates** in the Navigator toolbar.
- Click **Navigator update pending** in the Navigator status bar.

The agent status is updated in the Navigator. (You might not see any change if the branch containing the agent is collapsed.) The tool is disabled until the another status change is detected, at which time the counter starts again. If the workspace has automatic refresh turned on, the Navigator is updated at the end of the refresh interval.

Responding to an Application Support Event

Use the **Show new** or **updated application support** tool to see a count of the version mismatch messages, to view a list of application support version mismatches between the Marvel Enterprise Portal client and server, and to see instructions for correcting the discrepancy.

The number that is displayed after the tool, such as 8 for eight mismatch events, is a count of the events that have accumulated.

Procedure

1. Click the **Application support event** tool in the Navigator toolbar when it is enabled.
   The dialog box shows the list of mismatched applications and their support versions. Each event shows a Warning or Informational indicator followed by the name of the monitoring agent, the version of application support applied at the portal client, and the version applied at the portal server. No portal client version information is available when a new monitoring application is initially installed.
2. Complete the instructions that are displayed after the mismatch event list:

Browser Client and Java WebStart Client

If you are running the browser client or Java WebStart, any required application support updates are downloaded automatically after you log on to the portal server.

An application support version mismatch has been detected. Click Help for more information on possible causes and actions. Warning events indicate that the mismatch was found at client startup.

New or updated application support is available. Restart the Marvel Enterprise Portal client to update your application support. If application support updates become available while you are logged on, an Informational event occurs to show that application support is waiting to be applied. Log out and restart the client to have application support updates applied.

Desktop Client

Application support updates to the desktop client must be made by running the installer on the Marvel Monitoring Agent installation media.

An application support version mismatch has been detected. Use the Marvel Monitoring installer to add the associated application support to the portal desktop client. Warning events indicate that the mismatch was found at client startup.

New or updated application support is available. Use the Marvel Monitoring installer to add the associated application support to the portal desktop client. Informational events indicate that the mismatch was found after logon to the portal server.

Results

After logging off and logging onto the Marvel Enterprise Portal, the **Application support event** tool is disabled. If it is not, contact your network administrator or Support.

The first time the **Show new or updated application support** tool is enabled and after a new event arrives, a “New” indicator is displayed on the tool:  . After you open and then close the dialog box, the indicator is no longer shown:  . The indicator provides a convenient visual cue when new events arrive that you have not yet seen.

Usage note

If the client application support version is greater than the portal server's application support version, there is no need to recycle the client. The new support will work with the earlier support that is present on the portal server. Recycling the client does not collect the earlier version of support from the portal server unless the Java cache has been cleared to remove the newer version of application support.

To clear the Java cache complete the following steps:

1. Close the browser window to exit Marvel Enterprise Portal.
2. Start the Java Control Panel. Go to **Start > Settings > Control Panel > Java Control Panel** icon.
3. Delete the temporary internet files from the Java Control Panel window, in the **General** tab .
    a. When the JAR cache is cleared, click **OK**.
4. Restart the Marvel Enterprise Portal client.

Removing an Event Item

When you open an event results workspace, a new item is displayed in the Navigator. If you use event acknowledgement, other icons overlay the situation icon. If you close the event, all overlay icons are removed, but the Navigator item itself is not removed until you end your Marvel Enterprise Portal session. If you do not want to have the event item in the Navigator, you can remove it.

This does not affect the event or operation of the situation, only its appearance in the Navigator.

Procedure

To remove an event item, in the Navigator right-click the situation name and click Remove. The event item is removed from the Navigator. To see it again, you need open its workspace by selecting the true situation from the event flyover list.

Example

Here are some examples of event icons that you might see in the Navigator:

A critical event.

A warning event.

A warning event that has been acknowledged.

A warning event whose acknowledgement has expired.

A warning event whose acknowledgement was removed while the event was still open.

A true situation whose event has been closed.

An agent whose status is unknown. The monitoring server detects that the agent is offline. It might have been taken offline intentionally, there might be a communication problem, or the agent or the system it is running on might have stopped or be failing.

Removing an Offline Managed System Navigator Item

Use the Managed System Status workspace to clear offline managed systems from the Navigator view.

When a monitoring agent goes offline or its host name gets changed, its branch is dimmed in the Navigator, as in the following example, and its status is shown as *OFFLINE in any table view that uses the Current Managed Systems status query.

Table 10. Hierarchy of monitored enterprise

Enterprise
Windows Systems
MyComputer
Universal Agent

Table 10. Hierarchy of monitored enterprise (continued)

Windows OS

The Enterprise Navigator item has a Managed System Status workspace that you can use to check for any offline managed systems and remove them from the Navigator view. When the monitoring agent comes online again, it will reappear. Use these steps to clear an offline entry:

Procedure

1. Click the **Enterprise Navigator** item.
   The default workspace opens.
2. Click **Workspace gallery**, scroll to **Managed System Status**, and click the **workspace**.
3. Right-click an ***OFFLINE** row, then click **Clear offline entry**.

The offline entry is now cleared from the Navigator until the managed system comes online.

What to do Next

If this is a custom Navigator view with only one managed system, it is possible for the item to continue to appear in the view. This is possible when the item was added using drag-and-drop in the Navigator editor. Use the Navigator editor to manually remove the item, described in Deleting a Navigator view or item. If the managed system comes online again, it does not appear in the custom Navigator view. If you want it to appear there, assign the managed system in the Navigator item properties as described in Navigator item properties.

Chapter 3. Workspaces

Using Workspaces

The workspace is the working area of the Marvel Enterprise Portal window, divided into panes to show different types of views. You can start monitoring activity and system status immediately with the predefined workspaces.

You can tailor your own workspaces to give you summary overviews or to look at specific conditions.

Workspace Characteristics

Every Navigator item has at least one predefined workspace that you can open. Every workspace characteristics such as editable properties and views.

Views

A view is a windowpane, or frame, in the workspace containing a chart or table showing data from one or more monitoring agents. Other types of views such as the topology view and graphic view can give a broader overview of the network. Specialized view such as the browser view and terminal view are also available. You can increase the number of views in a workspace by splitting a view into two separate views.

The data for a table, chart, or relational table-based topology view is chosen by the query it uses. Collectively, they are called query-based views. The query specifies the attributes to include in the view. Although each view uses one query, you can add more views to the workspace, and each can use a different query. The queries can be for different monitoring agents, including those for the Marvel Enterprise Monitoring Server for showing information that is common to your monitored environment (such as all the managed systems and all the situation events). You can also include queries of JDBC or ODBC data sources by writing custom SQL queries.

Properties

Every workspace has a set of properties associated with it: general properties that apply to the entire workspace, and properties for each view in the workspace. Use the Properties editor to customize the workspace characteristics and to change the style and content of each view.

You can also keep the original workspace intact and create another workspace for the same item in the Navigator, customizing it for the types of views you want and the information reported in charts and tables.

Changes you make to a workspace are available only to your user ID. System administrators can work in Administration mode to create and edit workspaces that will be available to all users on the managed network.

Links

The link feature enables you to define a link from one workspace to another. Then you can quickly jump to a related or more detailed workspace to investigate system conditions.

The simplest type of a link originates from the Navigator item: When you right-click that Navigator item, the pop-up menu shows the defined links for the item. Select one to open the linked workspace.

A more specific link originates from a table or from a chart data point to another workspace. Information from one of the attributes in the selected row, bar, pie segment, or plot point is used to determine the content of the target workspace.

You can also define more complex links and use the predefined links that come with your Marvel Monitoring product.

Navigator level

The monitoring agents available for reporting in a workspace are those assigned to that branch of the Navigator. If you are not sure which monitoring agents are included, do one of the following:

- Expand the branch of the Navigator
- Right-click the Navigator item and select Properties to see which managed systems are assigned.
- Open one of the workspaces at the enterprise, platform, or system level of the Navigator Physical view

This same principle applies to attribute groups. The lowest level of the Navigator Physical view, for example, is the attribute level. The views you can show for the workspaces at that level can draw only from the attribute groups represented by that level. If you were to build a workspace for the **Disk Navigator** item, for example, you could create a chart with data from the **Logical Disk** attributes and another with data from the **Physical Disk** attributes.

Organization of Predefined Workspaces

The Enterprise Navigator item has workspaces that query the Marvel Enterprise Monitoring Server. Use these predefined workspaces to get status information about the monitoring server and monitoring agents and about situations and policies.

Use the **Workspace Gallery** to see what is available for the Navigator item. These are the Enterprise Navigator item workspaces and the workspaces they link to:

Enterprise Status

The default workspace is Enterprise Status, which gives an overview of the situation event status throughout your enterprise.

- Event Details - Similar by Situation Name
- Event Details - Similar by Source
- Event Details - Similar by Resource

Manage Marvel Enterprise Monitoring Servers

The Manage Marvel Enterprise Monitoring Servers workspaces provide a visual health check of the monitoring servers in your enterprise and the application support that has been applied.

- Installed Catalogs - Enterprise View
- Installed Catalogs - Remote Server
- Protocols
- Situation Status
- System Information

Managed System Status

The Managed System Status is a list of monitoring agents in your managed network and their ONLINE or OFFLINE status. The linked workspaces are only available for online managed systems.

- Audit Log

- Agent Operations Log
- History Exports

EIB Change Log

This workspaces displays entries in the Enterprise Information Base (EIB) log. The EIB is a database used by the Marvel Enterprise Monitoring Server to store situation, policy, user definitions, and configuration information.

Self-Monitoring Topology

The Self-Monitoring Topology workspace provides a high level overview of your managed infrastructure and its health.

Deploy Depot Package List

The Deploy Depot Package List workspace shows the installation packages that are available in the agent depot.

Deployment Status Summary

The Deployment Status Summary workspace shows summary status information about remote agent deployments.

- Deployment Status by Deploy Group
- Deployment Status by Product

Deployment Status Summary by Transaction

The Deployment Status Summary by Transaction workspace shows summary status information about remote agent deployments, sorted by transaction.

Opening a Workspace

Use the Navigator to open the default workspace for the selected item, then the Workspace Gallery to see and select from a thumbnail display of available workspaces.

As well as a convenient way to open workspaces, you can also move the workspaces around the gallery to change their order. The changes you make are saved with the workspace definition for the Navigator item. If you are in workspace administration mode when you reorder the thumbnail graphics, the reorganization will be reflected in the workspace gallery of all Marvel Enterprise Portal clients connected to this Marvel Enterprise Portal Server.

Every item in the Navigator has a workspace associated with it, called the *default workspace*. Some items have multiple workspaces that you can open, although only one workspace can be open in the Marvel Enterprise Portal window at one time. Some workspaces are only accessible by linking to them from another workspace.

Procedure

Click the item name or icon in the Navigator to open the default workspace:

- Physical view: , , , , or .
- Logical view or other custom Navigator view: .

  The default workspace for that item is displayed, replacing the workspace of the previously selected item. If the workspace shows no data for a chart or table view, it means there is no data to display. This can occur with monitoring data that is not constantly generated, such as Archive Errors, which collects data only when archive errors occur.

To open another workspace associated with the Navigator item:

1. Click **Workspace gallery**.
2. Click the thumbnail graphic of the workspace to open.

   Note:
   To open the workspace in a new window instead of replacing the current workspace, use Ctrl + Shift + click the thumbnail graphic.

   If this is a new installation, you will see the splash screen instead of a thumbnail version of the workspace in the gallery until you or another user who is logged on to the same Marvel Enterprise Portal Server opens the workspace for the first time. A check mark by a workspace name indicates that it is the default workspace for this Navigator item. You can reorder the workspaces in your copy of the gallery by clicking a thumbnail graphic and dragging it on top of the workspace to swap positions with.

Related information

Tabbed Workspaces *(on page 39)*

Opening a New Window *(on page 38)*

Opening a New Window

Have multiple workspaces open on your desktop at the same time by opening multiple Marvel Enterprise Portal windows.

You can add more dashboard views to your desktop by opening more Marvel Enterprise Portal windows. Any changes you make these window are saved with the application.

- Click **New Window** to open a new window in the desktop client.
- Press Ctrl + N to open a new window in the browser client running in Internet Explorer.
- Click **Workspace gallery** and press Ctrl + Shift + click the workspace to open another workspace in a new window and keep the original intact in this window.

The new window is opened as a duplicate of the original; any changes you make to the new window are independent of the original.

Any previously visited workspaces are retained from the parent window; use and to revisit them. Further navigation to other workspaces in either window, however, is independent of the other window.

You can close duplicate windows (click **File > Close**) or the original; the work session remains active as long as one window is open.

Related information

Opening a Workspace *(on page 38)*

Tabbed Workspaces *(on page 39)*

Tabbed Workspaces

Use the tabbed pages capability of your browser to open workspaces, linked workspaces, and Navigator views in new tabs.

Browser client and browser settings

When your browser supports tabbed web pages, the Marvel Enterprise Portal browser client uses the browser's tab settings to determine how to open a workspace: When tabs are enabled, the workspace is opened in a new tab. You can set the properties of a workspace or the target of a workspace link to always open in a new tab, or you can open a workspace in a new tab by holding down the Ctrl + Shift keys while selecting the workspace with a mouse click. Then use the Ctrl + Tab keys to switch focus to the next tabbed workspace.

The desktop client and Java Web Start client use these same features to open a workspace, but it is always opened in a new window.

Workspace properties

Every Marvel Enterprise Portal workspace has properties that control the access and method of display when it is opened. The workspace will open in a new tab on browsers that are set to use tabbed pages when **Always open workspace in new window** is enabled.

Link target

The link wizard Target Workspace page has an option to **Always open target workspace in new window**. It shows in the link wizard Parameters page as *openTargetInNewWindow*. When enabled, this option opens the targeted workspace in a new tab if you are logged on from a tab-enabled browser.

Navigator item find

Find in the Navigator toolbar enables you to locate any Navigator item using simple or advanced search criteria. The Find window has an option to **Open workspace in new window** that will open the default workspace for the found Navigator item in a new tab if you are logged on from a tab-enabled browser.

On demand

You can open a workspace in a new tab from any context.

Open a Workspace

- Ctrl + Shift + click a Navigator item to open its default workspace.
- Click **Workspace gallery** and Ctrl + Shift + click the workspace.
- Right-click the active Navigator item, point to **Workspace**, and Ctrl + Shift + click the workspace that you want to open.
- **View > Workspace > Ctrl + Shift + click** the workspace that you want to open.

Link to a Workspace

- Ctrl + Shift + click the link anchor.
  If there are multiple choices, click the one you want.
- Right-click the source of a defined link (Navigator item, table view row, pie chart slice, bar chart bar, plot chart point, area chart point), point to **Link to**, and Ctrl + Shift + click the link name.

Open a Found Navigator Item at its Default Workspace

1. In the Navigator view toolbar, click **Find**, enter the find criteria and click **Find**.
2. Point to a row and Ctrl + Shift + click from the list of Navigator items that is displayed in the Find results area to open the default workspace for that Navigator item in a new tab.

Open a Navigator View at its Default Workspace

- In the Navigator view toolbar, click the **View** list box and Ctrl + Shift + click the Navigator view.
- **View > Navigator View > Ctrl + Shift + click** the Navigator view.
- Ctrl + Shift + click a Navigator tab.

Troubleshooting

If the workspace or Navigator view opens in a new window rather than a new tab, review the tab options in your browser to ensure that the tab feature is enabled. If you are using Microsoft Internet Explorer 7, be aware that tabbed workspaces are treated as pop-ups: In the Tabbed Browsing Settings window (**Tools > Internet Options > General > Tabs > Settings**), **Always open pop-ups in a new tab** must be selected.

Refreshing a Workspace

You can refresh the data that is displayed in the workspace on demand or at a set interval.

The Marvel Enterprise Portal client receives monitoring data from monitoring agents whenever you open a workspace that includes query-based views. The default setting for most predefined workspaces is *On Demand*, which means retrieved data remains static until you refresh manually

- Click **Refresh Now** to refresh a workspace manually, .
- Click **View > Refresh Every**, and select one of the following to set a refresh interval.
    - 30 seconds
    - 60 seconds
    - 5 minutes
    - 15 minutes
    - 60 minutes
    - On Demand

Note:
In order for your refresh settings to persist, you must save the workspace and optionally select **Assign as default for this Navigator item** in the **Save Workspace As** dialog.

If the workspace includes any plot charts or area charts, you can refresh those views independent of the rest of the workspace by editing the Style properties of the plotted area to specify a refresh rate.

Be aware that the more frequent the automatic refresh, the more network traffic you create. These requests travel from the portal client to the portal server and to the hub monitoring server before reaching the monitoring agent. They might also pass through a remote monitoring server to reach the monitoring agent. The information is returned by the same route.

Related information

Suspending and Stopping Refresh *(on page 42)*

Suspending and Stopping Refresh

If the workspace is set to refresh automatically at timed intervals or it includes event status views, you can suspend refreshes to keep the data from changing while you investigate a problem.

When you open a workspace that includes table or chart views, the Marvel Enterprise Portal receives the most recently sampled monitoring data from the agents. Take one of these steps to suspend data refreshes or to stop receiving the data that populates the workspace.

- Click **Pause Refresh** to suspend automatic refreshing of the workspace; click **Resume Refresh** to turn on automatic refresh again.
- Click **Stop** to stop loading the workspace.

Related information

Refreshing a Workspace *(on page 41)*

Linking to a Workspace

Use these steps to link to a workspace that has been targeted from the current Navigator item or view.

Many monitoring agent products have workspace links available through their predefined workspaces. You can also create and use links to workspaces that follow a logical progression of investigation into performance and operation issues.

1. Open the workspace from where you will launch the link to open the source workspace.
2. Do one of the following, depending on where the link originates:
   - Right-click the current (highlighted) Navigator item.
   - Click the link indicator on a table row or the graphic view, then skip to step 4. A dimmed link indicator means the link is not available from that row.
   - Right-click a pie chart slice, bar chart bar, plot chart point, table row, graphic view icon, or TMS Infrastructure object.
3. Click **Link To** and click the target workspace in the list.
   The target filter or link expression is used to select the information displayed in the views of the target workspace. If, instead of the workspace opening, you get a `Target not found` message, the definition of the target workspace could not be resolved.
4. **Note:**
   If there is more than one workspace you can link to, the Select Target window opens.

   Select the Navigator item for the workspace and click **OK**.
5. Click **OK** if a message asks you to select a leaf node, then select an item deeper in the tree hierarchy.

The target workspace is displayed. If the link was defined to open the workspace in a new window, it is opened in its own window. If you are using the browser client and your browser supports tabs, the workspace is in a new tab next to the source workspace.

Note:
Navigation using and to visited workspaces retains the link context. As an example, consider a link to a workspace from a table row. The row from which you linked is remembered when you revisit the target workspace.

View Title Bar and Toolbar

Every workspace view and the Navigator view has a title bar with some or all of these controls.

Table 11. Title bar controls

	Opens the Properties editor to the properties for the view.
	Shows or hides the view toolbar. This button does not display if the view has no tool-bar.

Table 11. Title bar controls (continued)

	Splits the Navigator horizontally to create a new workspace view.
	Maximizes a view for a closer look. Click **Restore** to return to the original size. You can save the workspace with the view maximized.
	Removes a view. There is no undo for this action except to open a different workspace and answer No when a message asks if you want to save the workspace; -OR- Select **File > Save As** to keep the original workspace with the view intact and create a new workspace without this view.

Most view types have a toolbar for performing specific actions in the view. A common tool is **Find**, which is available for finding values in the browser view, notepad view, table view, message log view, and the event console views. Another tool, **Time span**, is for specifying the time period to be displayed in a query-based view when historical data is being collected for it.

Setting a Time Span to Display

You can have the Marvel Enterprise Portal log data samplings into history files or a database for display in a table or chart. These historical data enabled views have a tool for setting a range of previous data samples to be reported.

Historical data collection must be configured and distributed to the managed systems that you are querying data from. Otherwise, Time Span is not displayed in the toolbar of the query-based view. Some attributes groups, such as Situation Status and the Windows Event Log, are historical in nature and show all their entries without you having to specify a time span. For these types of attribute groups, you do not need to configure history collection unless you want to roll off to a data warehouse for long-term storage or limit the amount of data displayed. Thus, the time span feature, rather than showing more data, limits the data reported to the time period indicated. Even if data collection has been started, you cannot use the time span feature if the query for the chart or table includes any column functions. If this is the case, you can select or create another query to enable Time Span.

Take these steps to broaden the time range of data beyond the current data samplings.

1. Open the workspace containing the chart, table, or relational table-based topology view where you want to see historical data.
2. Click **Time Span** the view's toolbar.
3. Select a time frame: **Real time plus Last _ Hours** (enabled for bar, plot, and area charts only), **Last _ Hours** (or Days, Weeks, or Months, if the data is warehoused), or **Custom**.

4. If you selected **Last** or **Custom**, specify the range of data:
   Detailed data is all the data collected for the agent. Summarized data is data that is aggregated across the specified time frame.
   a. Set the time frame interval, work shift, and the days. This option is disabled if no data warehouse and summarization schedule were configured for this attribute group.
   b. To set a custom time frame, click inside the **Start Time** and **End Time** fields to open the date editor. Use the spin boxes to adjust the time, year, or month; and click the calendar day. **HH:MM:SS AM/PM** is initially set to the current time.
   c. To apply the time span to all views that use the same query as this view, select **Apply to all views associated with this view's query**. When this option is enabled, the query is modified to include the time span set here, so any other views using this query report the same time range.
   d. The **Timestamp** column that is added to the historical view can show either the global timestamp (the default) or local. Select **Use Hub time** to reflect the time at the Hub Marvel Enterprise Monitoring Server rather than at the Tivoli Enterprise Portal Server or portal client.

After you click **OK**, the view shows data from the time span you specified. If the view is a table, a timestamp is displayed as the first column and is accurate to the nearest minute; seconds are displayed as 00.

If you see null as the value of a table cell or chart point, it means that no value was stored in the Marvel Data Warehouse. This happens when values that were identified as invalid are reported from a monitoring agent for a given summarization period.

The sort function is incompatible with the historical reporting feature. If you are using **Time Span** to retrieve historical data, the chart or table is not sorted even if you have specified a sort order in the query. You can still sort a table by clicking a column heading.

After support for an updated product has been applied to the portal server, it is possible to get a request error message about a missing or unknown column name in the view's status bar after you set a time span with **Use summarized data** selected. Wait until after the next scheduled summarization and pruning procedure has taken place before viewing the summarized data. If need be, you can reschedule summarization and pruning to run sooner.

Related information

Overview of Historical Data Collection and Reporting *(on page 57)*

Moving a View

Move a view to a different position in the workspace to take best advantage of the available space.

Your user ID must have Workspace Author Mode permission to use this function.

You can easily rearrange the views in a workspace to take advantage of the greater width available below the Navigator view and the narrow area to the right.

1. Move the mouse pointer over the title bar of the view you want to relocate.
2. Click and drag the view over the space you want it to occupy. While dragging the title bar, you should see a semi-transparent copy of the view.
3. Release the mouse button to swap the views.

Reordering Columns and Rows

Change how a table view is sorted temporarily to focus on specific column details or in a more permanent way if it should always appear sorted in this manner. You can also reposition columns for a more logical organization or to emphasize columns of interest.

You can set the sort order in three ways. Take one of the following steps:

1. Reorder the table view columns or chart view data series by clicking the column heading and dragging to the new position:
    - If you open a workspace and drag the column heading in a workspace table view, the change is temporary unless you save the workspace. You can also right-click a column heading and click **Lock this Column** to fix the column and any columns to the left of it so that they do not move off the viewable area of the pane when you scroll horizontally.
    - If you click **Edit properties** in the table- or chart view title bar and drag a column heading in the **Filters** tab, the change is temporary unless you save the workspace.
    - If you click **Query Editor** and drag a column heading in the Specification tab, the changes are saved with the query and applied to any views that use that query. Column reordering must be done in a custom query because predefined queries are not editable.
2. Sort the row data in a table view:
    a. Click **Query Editor**, open a custom query, click Advanced, and select a Sort By attribute from the list.
    b. In a table view, click a column heading to sort all rows by that column in ascending order, descending order, and back to the original order the third time you click. You can save the view's sort order with the workspace.

Chapter 4. Responding to Events

Responding to Events

Event indicators such as ⚠ **Minor** or ✅ **Harmless** appear on Navigator items when an event is opened for a true situation.

A situation is a test for certain conditions on managed systems that, when met, change the situation status to true. The situation can include a take action command (reflex automation) that will be carried out when the situation is true.

Understanding Situation Events

The products that run in the Marvel Monitoring environment come with their own set of situations. These predefined situations serve as models for defining custom situations for your environment.

Situation formula

Situations formulas are constructed of one or more expressions. For example, a situation that checks for free disk space below 20% on a Windows system has an expression that uses the Logical Disk attribute "Free Megabytes" and reads as Free Megabytes < 20.The situation will read data samples taken at the managed system at set intervals, such as once a day for the disk space situation in our example.

Other situations might be more elaborate, such as the predefined Windows OS situation, Bottleneck Memory. It embeds two situations: one that tests for excessive memory paging activity (>100 pages per second), and one that tests for processor time over 70%. If both of these situations are true at the same time, the Bottleneck Memory situation becomes true and opens an event.

Situation event indicators

When a situation is associated with a managed system, it also has a state setting that determines which light, is displayed on the Navigator item when the situation becomes true. From highest severity to lowest, they are as follows:

Table 12. Event severity

	Fatal
	Critical

Table 12. Event severity (continued)

	**Fatal**
	**Minor**
	**Warning**
	**Harmless**
	**Informational**
	**Unknown**

As you move up the Navigator hierarchy, multiple events are consolidated to show only the indicator of the highest severity. Go to the lowest level of the hierarchy in the Navigator and you see the event indicator over the attribute category for which it was written.The situation event console and graphic view also show situation event indicators and enable you to respond to events. The Enterprise Status workspace includes the situation event console view.

Enterprise Status workspace

The initial default workspace is the Enterprise Status workspace. The views in this workspace give an excellent overview of situation events in your monitored environment and their status. One of the views, Situation Event Console, lists the open events and their severities.

Event flyover list

In the Navigator view or a graphic view, you can hover the mouse over an event indicator to open a flyover listing of open situation events with this information:

- Event state
- Situation name
- Name of the system on which the event occurred Two-letter code for the monitoring agent
- Event timestamp
- Display item, if one was specified
- Situation status icon if:

Table 13. Situation status icons

Icon	Description
	The event has been acknowledged;
	The acknowledgement has expired.
	The acknowledgement was removed before it had expired and the situation is still true.
	The situation is not functioning properly and you will not be able to open its event results workspace.
	The situation has been stopped and you will not be able to open its event results workspace.

The link  is to the event results workspace for the situation.

The pop-up menu for the event items has options for working with the situation and event:

Table 14. Options for working with the situation and event

Icon	Description
	**Edit the situation**
	**Start the situation**
	**Stop the situation**
	**Quick acknowledge the event**
	**Acknowledge the event**
	**Close the event (pure events only)**

Event results workspace

The event results workspace shows the values of the attributes when the situation fired and their current values. It shows any expert advice the situation author might have written and any hypertext links to go to for more information. The take action view enables you to

select or define a command to be invoked at the managed system.The table views showing the initial situation values and their current values also have pop-up menus that include the option to launch an application. If you have a favorite diagnostic tool, you can start it from here.

Event acknowledgement

When multiple users are monitoring the network for events, one of them can acknowledge an event to indicate it has been seen and the problem is being worked on. Acknowledging an event changes its event status from `Open to Acknowledged` until the acknowledgement expires or until the situation is no longer true.You can add notes to an acknowledgement and attach files that are pertinent to the event.

Automated responses

Automated responses to events can improve the efficiency of systems management by reducing user workload and errors and allowing quicker responses to problems. Marvel Enterprise Portal provides two levels of automation: *reflex* and *advanced*.

- Reflex automation provides simple automated system actions. It allows you to monitor a condition on a particular system and to specify a command to execute there. The command can be a single action or a script of commands. Marvel Enterprise Portal receives no feedback after it sends the command or notifies the user.

  Reflex automation is implemented by adding an action command to a situation definition that runs when an event is opened.
- Advanced automation allows you to implement more complex workflow strategies than you can create through simple reflex automation. *Policies* are used to perform actions, schedule work, and automate manual tasks. A policy comprises a series of automated steps called *activities*, which are connected and can branch to create a *workflow*. After an activity is completed, a return code is received with feedback and the next activity prescribed by the feedback is carried out.

With policies you can monitor multiple conditions simultaneously on any number of systems and have selected activities take place when specific conditions occur. Many monitoring agents come with predefined policies that you can use as is or modify for your environment.

You can also create your own policies. The Workflows editor is provided for designing and managing policies.

Chapter 5. Custom Workspaces

Customizing Workspaces

Marvel Enterprise Portal product comes with a set of predefined workspaces for every item in the Navigator Physical view. Use these as a starting point for creating and customizing new workspaces to suit your environment.

Custom Workspace Options and Guidelines

The Marvel Enterprise Portal has over a dozen types of views that you can populate a workspace with. Over half of the views are query-based and have a number of embellishments that you can use to observe potential and existing threshold conditions and other metrics.

Workspace Changes

- Split a view horizontally or vertically into two separate views.
- Change the dimensions of the views by dragging the borders between them.
- Rearrange views by clicking a view's title bar and dragging it another view space.
- When you release the mouse button, the views switch position.
- Maximize the view and, if you like, save the workspace while it is still full-screen.
- Change a view to a different type, such as from a pie chart to a gauge.
- Edit the workspace properties, such as to make it the default workspace.
- Edit the properties of the individual views to control their styles and, in table and chart views, what data they display.
- Build a link to another workspace so that you can jump to it from this one quickly.
- Save a copy of the current workspace and edit the copy.

Any changes you make to a workspace are available only to you; no one else will see your changes. The exception is with workspaces that were updated by an administrator while in workspace administration mode, where the changes to that workspace are shared with all users who log on to the same portal server.

Predefined workspaces are protected from editing. You must use **File > Save As** to create your own copy for customization.

Design Guidelines

- Display a view full screen.
- Resize views by dragging the borders.
- Swap location with another view by dragging by its title bar to the new position.
- Workspace link definitions.
- Arrange the order of workspaces in the workspace gallery. This gets saved with all workspaces for a **Navigator** item.

Here are some guidelines to plan workspaces:

- Tailor the content of a workspace to the Navigator level: Workspaces at the top of the hierarchy show summary information; those at lower levels provide more in-depth information.
- Provide summary information at the agent level of the Navigator Physical view.
- Use custom queries that pre-filter the data used in a table or chart to ensure fastest data retrieval and not see extraneous data. And use as few different queries as possible in one workspace.
- Design for a specific monitor resolution. To create in workspace administration mode for multiple users, use 1024 x 768, which is the lowest resolution on which the Marvel Enterprise Portal can run.
- Do not crowd too much information in one workspace. Instead, have multiple workspaces at one level or links from one workspace to the next.
- For table views with many columns, arrange them so the important ones are visible. Consider removing some columns by pre-filtering (Properties - Query) or post-filtering (Properties - Filters).
- Consider combining tables with charts in a workspace for the most effective style layout.

Tips

- To edit a predefined workspace or one created in administration mode, restore the original through **File > Restore Original Workspace**. The customized version is overwritten by the original. To keep both the customized workspace and the original, save the customized workspace with a new name before restoring the original.
- The managed systems available for reporting are those assigned to the **Navigator** item. If unsure which are assigned, select the **Navigator** item, right-click the item, and click **Properties**.
- The CLI has several tacmds specific to workspaces:
    - deleteWorkspace to delete a workspace by its objectid from the Marvel Enterprise Portal Server.
    - listWorkspaces to list all of the workspaces, including objectid, on the portal server.
    - exportWorkspaces to export one or more portal workspace definitions to a file.
    - importWorkspaces to import the workspaces definitions in a file into the portal server.

Workspace Author Mode Permission

The user ID requires Workspace Author Mode permission to create and maintain workspaces, including links. If the main toolbar is disabled (except **Refresh, Back, Forward and Stop**), as well as the **split** and **remove** buttons on the **view** title bar, the user does not have this permission.

Tutorial: Defining a workspace

Use the tutorial to get hands on practice and experience defining a workspace.

In the tutorial exercises you will add new views to an undefined workspace, tailor them with the Properties editor, save the workspace, and, finally, edit the workspace properties.

If the split view and view tools are disabled (dimmed), the user ID does not have Workspace Author Mode permission and is restricted from completing the tutorial.

Split a View

1. Open an undefined workspace.
   An undefined workspace is one that has not been provided with your monitored application or defined by you or an administrator. You can find undefined workspaces initially at the system level (computer or image name is displayed) of the Navigator Physical view, and, if you have custom Navigator views, wherever you have created child Navigator items. A workspace that has not been defined yet will have a browser view with links to this lesson and other relevant topics, and it will have a notepad view.
2. In the notepad view, click Split Vertically to split it into two separate views. The notepad view splits in half vertically, with a duplicate copy in the new view space. Notice that every view in the workspace, including the Navigator, has and tools, as well as (except the Navigator) to delete the view and expand the adjoining view to fill the space.

Change the View Type

Change the new view to a table view:

1. Click **Table**.
2. Click inside the notepad view.

As you move inside the workspace the mouse pointer changes to the table view icon (Linux shows a hand icon). After you click, the new table view replaces the notepad view. Because a query has never been associated with this view, no data is displayed in the table. You will need to select a query from the Properties editor.

3. When a message asks you to assign the query now, click **No**.

Now add a message log view to the original notepad view:

1. Click **Message Log**.
2. Click inside the notepad view.

   The message log replaces the notepad view.

> **Tip:**
>
> If you select the wrong view or change your mind about the view you chose, press **Escape** or click somewhere in the toolbar.

Swap Views

You can easily move a view to a new position by dragging it by its title bar to the view space it should occupy. When you release the mouse button, the views swap position.

1. Point to the message log view's title bar.
2. Click and drag it to the table view.
   As you drag the view, it appears semi-transparent.

Edit View Properties

Edit the properties for the table view to select what data must display.

1. In the table view title bar, click **Properties**.
2. In the **Query** tab, Click here to assign a query.
   Queries determine from which attribute group to draw data. The Select Query window opens.
3. In the Query tree, expand the **Marvel Enterprise Monitoring Server** branch, then **Managed System**.
4. Select Current Managed Systems Status and click **OK**.
   Back in the Query tab, you can see a preview of the table.

5. Click the **Filters** tab and clear the boxes for these columns (attributes): **HostAddress, Affinities, Host Info**.
   Filters is where you specify the attributes to include in the table and, if you like, show only those values that fall within a range.
6. Click **Test** to see a preview of your changes.
7. Click the Thresholds tab to specify a threshold.
8. In row 1, click the colored column and select Informational. This will be the background color of the cell when the threshold expression becomes true.
9. In row 1, click the **Status** cell, then the arrow, and select **OFFLINE** from the list.
   Any managed systems that are offline will have this background color.
10. Click the **Style** tab to change the appearance of the table.
11. In the **Header**, type the following title in the Title text box: `Marvel Enterprise Monitoring Agent Status`.
12. Click **OK**.

Save a New Workspace

A new workspace can be saved by following the procedure below:

1. Select **Save** Workspace As from the **File** menu.
   If you are running Marvel Enterprise Portal in browser mode, be sure to select its **File** menu and not browser's **File** menu.
2. Type `My Workspace` in the **Name** field.
3. Select **Assign as default for this Navigator Item**.
4. Click **OK**.
5. Take note of which Navigator item `My Workspace` is associated with.
6. Now test your workspace by opening another workspace, then clicking this Navigator item again.

Edit Workspace Properties

The workspace properties can be edited by completing the following procedure:

1. With My Workspace open, click Properties.
   When you open the Properties editor for a workspace from the toolbar as opposed to the pop-up menu, the properties for the workspace display.
2. Clear **Assign as default for this Navigator Item**.
3. Click **OK**.

4. Click Save.
5. Test the new setting by opening another workspace, then clicking this Navigator item again.
   My Workspace does not display. Instead, you see the original undefined workspace, which is the default workspace for this Navigator item.
6. To open My Workspace, right-click the Navigator item, click **Workspace**, and select **My Workspace** from the list.

Opening a New Window

In the desktop mode, click **New Window**.

The new window is a duplicate of the original. Any previously visited workspaces are retained from the parent window; use Go back and Go forward to revisit them. Further navigation to other workspaces in either window, however, is independent of the other window.

Note that you can close duplicate windows (click **File > Close**) or the original; the work session remains active as long as one window is open.

Note:
To view two workspaces at the same time, create a new window. Any changes you make in this or the other window (or windows, if you open more) are saved with the application.

Tip:
You can set the properties of a workspace to open in a new window automatically whenever it is selected. If you are running the Marvel Enterprise Portal in browser mode from a browser that is enabled for tabs, the workspace opens in a new tabbed page.

Conclusion

In this lesson you learned some of the techniques used to define and customize workspaces:

- Split a view.
- Change to a different view: table and message log.
- Swapping views by dragging one view over the other.
- Edit the properties for a view: Select a query for the table, then filter it and add a threshold and title.
- Save the workspace, making the new workspace the default for the Navigator item.
- Edit the properties of the workspace to remove the default status.

Chapter 6. Historial Reporting

Overview of Historical Data Collection and Reporting

Marvel Enterprise Portal provides historical data collection and reporting capabilities. If historical data collection has been configured and started for an attribute group on the managed systems specified, you can set a time span for retrieving historical data into a query-based view.

Creating a Historical Collection

A historical data collection specifies the attribute group to collect data from, where to store the historical data, and other information such as the collection frequency and distribution. Create a historical collection definition for every attribute group that you want to collect historical data for. You can then retrieve the historical data into query-based views.

Your user ID must have Configure History permission to open the History Collection Configuration window. If you do not have this permission, you will not see the menu item or tool for historical configuration. The CCC Logs apply to all managed systems: Agent Operations Log, ITM Audit, and Universal Messages. The Policy_Status and System_Status attributes do not record historical data. Typical environments do not use the EIB Change Log and Situation Status Log attribute groups.

Procedure

Complete the following steps for each attribute group that you want to collect historical data from on specified managed systems or managed system groups or on all the managed systems that connect to a Marvel Enterprise Monitoring Server:

1. Click **History Configuration** to open the **History Collection Configuration** window.
2. Click **Create a new collection**.
   If you first click a **Monitored Application** (or right-click and click), Monitored Application is selected for you.
3. Enter a `Name` of up to 256 bytes.
   A short name is also given to the collection and is shown in the middle section of the status bar.
4. Enter a `Description` for the collection, up to 64 bytes.
   Description is optional.
5. Select a **Monitored Application** from the list.
6. Select an **Attribute Group** from the list.

Not all the product attribute groups necessarily display: only those that are appropriate for historical collection and reporting.

7. Click **OK** to open the configuration tabs for the collection.
   The branch of the monitored applications expands to show the new collection. At this point, it has not been distributed to the managed systems.
8. Complete the fields in the **Basic** tab:

   Collection Interval

   Frequency of data transmission to the short-term history file on the computer where the data is saved (Marvel Enterprise Monitoring Agent or Marvel Enterprise Monitoring Server). The options are every 1, 5, 15, or 30 minutes, every hour, or once per day. The default interval is 15 minutes.

   The shorter the interval, the faster and larger the history file grows. This can overload the database, warehouse proxy, and summarization and pruning agent. For example, if you set a 1-minute collection interval for Process data, expect the summarization and pruning for that attribute group to take a long time. Such a short interval should be enabled for an attribute group only if it is critical in your work.

   Collection Location

   Where the short-term historical data file resides: at the MEMA (Marvel Enterprise Monitoring Agent) or the MEMS (Marvel Enterprise Monitoring Server). The default location is MEMA, which minimizes the performance impact on the monitoring server from historical data management.

   If you are filtering the historical collection (step 9 *(on page 59)*), collection at the MEMA also gives you more space for composing the filter. The formula example at the end of this topic takes up 63% of the formula storage when collection is set to MEMS; and 31% when collection is set to MEMA.. Note, however, that MEMS might be a better choice for certain environments. Also, the OMEGAMON XE on z/OS product requires that the data be stored at the monitoring server.

   Warehouse Interval

   Determines whether the collected data is warehoused and how often. The options are 15 minutes, 30 minutes, 1 hour, 12 hours, 1 day, or Off.

   A more frequent warehousing interval enables quicker availability of warehoused data for retrieval. Shorter intervals cause some additional processing to check for and transmit newly collected data; and there are more frequent elevated levels of transmission activity, but for shorter durations. Regardless of the warehouse interval,

the most recent 24 hours are always available in the short-term history files. If you use Marvel Common Reporting, note that queries are to the data warehouse only.

9. Click the **Filter** tab and compose the formula to restrict the collection of samples to only those that meet certain conditions.

    a. Click **Add Attributes**.

    b. Select the attribute to filter on and click OK.
    Use `Ctrl + click` to select multiple attributes, `Shift + click` to select all entries between the attribute previously selected and this one, or Select All to select every attribute.

    c. Click inside the cell under the column heading and compose an expression  consisting of a function, a relational operator and a test value, for each selected attribute:
    To change the function, click  Value (or Compare date and time for a time attribute) and select one from the list.

    To change the relational operator, click  equal and select another operator from the list.

    Click inside the  text box and enter or select the value.

    d. Keep multiple expressions in the same row if they must all be met (Boolean `AND` logic) and on separate rows if any of them might be met (Boolean `OR` logic) for the sample to be saved in the short-term history file.

    e. Select the same attribute twice if you want to collect a range, such as > 1 AND < 90. Use **Add Attributes** to select the attribute again. (See the second example at the end of this topic.)

    f. Confirm that the **Formula capacity** counter is below 100%.
    Setting the **Collection Location** (step 8 *(on page 58)*) to **MEMA** gives the most space.

10. Click **Apply** to save the collection.

The collection name appears in the monitored application branch of the tree with an icon to indicate that it is not distributed to managed systems: .

Example

This is a historical collection called “ProcessInformation”. The settings in the **Basic** tab use the defaults: **Collection Interval** of 5 minutes; **Collection Location** at the TEMA; and **Warehouse Interval** of 15 minutes. The **Filter** tab has a formula written to collect the sample if one of these two conditions is met: the process name is *VirusScan*; OR the process name is *java* and is taking more than *50%* of the processor time on the *North012* Windows system, the *South007* Windows system, or both.

Process Name	% Processor Time	Server Name
==VirusScan		
==java	>50	('Primary:North012:NT', 'Primary:South007:NT')

The `IN` operator was selected for entering the server list, as you can see when viewing the formula in :

(Process Name==VirusScan) OR (Process Name==java AND %Processor Time >50 AND Server Name *IN ('Primary:North012:NT','Primary:South007:NT'))

The following example shows a filter formula with a repeating attribute:

Table 15. Filter formula

	% Processor Time	% Processor Time
1	>40	<60

Distributing a Historical Collection

Distribute a historical collection definition to the managed systems that you want to save data samples from. Data collection begins as soon as you save the distribution. Edit the distribution list whenever you want to start or stop historical sampling on certain managed systems or managed system groups.

After you create a new historical collection definition or create another, the next step is to select the distribution method (Managed System or Managing System) and assign managed systems to the distribution list.

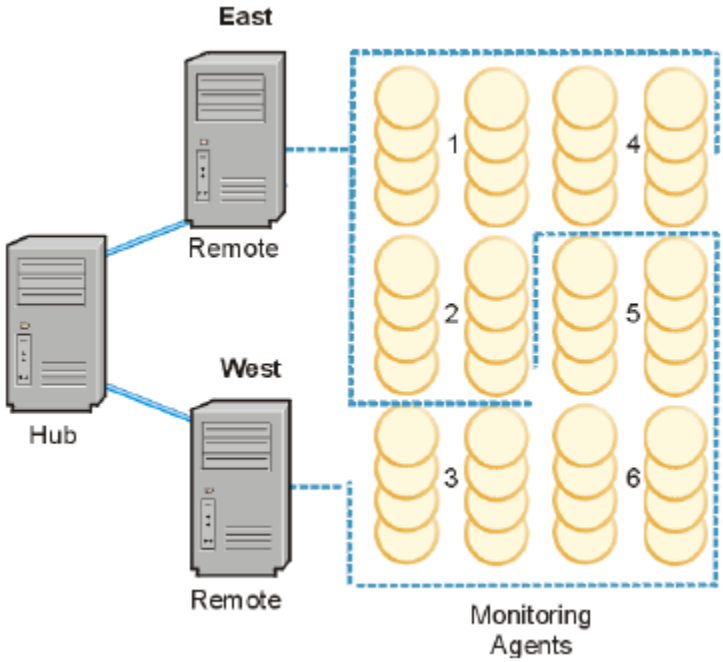
Procedure

To create or edit the managed system distribution for a historical collection definition:

1. Go to **History Configuration > Monitored Application** (if the History Collection Configuration window is not open), then click the historical collection definition that you want to distribute.
2. Click the **Distribution** tab and select the distribution method:
   - **Managed System (Agent)** to select managed systems and managed system groups individually. You can also add the collection definition to a historical configuration group to adopt the group's distribution.
   - **Managing System (MEMS)** to select all the agents that connect to this monitoring server. This method makes the collection ineligible for inclusion in a historical configuration group.

In the following example, if you chose distribution by *managed system (agent)*, you could select any of the agents to distribute the collection to; if you chose distribution by *managing system (MEMS)*, selecting the East Marvel Enterprise Monitoring Server distributes the collection to the 1, 2, and 4 agents and you cannot remove any of them or add agents from the West monitoring server.

Figure 3. Historical collection distribution example



Available Systems shows the monitoring agents or monitoring servers for assignment and **Available Managed System Groups** shows the available managed system groups. You can click **Edit Managed System Groups** to open the Object Group editor for creating and editing managed system groups.

3. Select the monitoring server (If you selected ◉ **Managing System (MEMS)**) whose managed systems you want to start collecting data for, and move to the **Start collection on** list.
4. Distribute to the managed systems (if you selected **Managed System (Agent)**) where you want to start data collection:
    - Assign managed systems to the collection: Select from the **Available Systems** or **Available Managed System Groups** list, then ◂ move to the **Start collection on** list. Distribution to an individual historical collection is useful when the managed system assignments vary for each collection definition.
    - Assign managed systems to a historical configuration group for the collection definition. Distribution to a historical group is useful when the distribution is the same for multiple collection definitions.

a. Click **Group**.

b. Click **Create a new object group**; or **click Update an existing object group** if a historical group has already been created that this collection can become a member of.

c. Select a historical collection from the list of **Available Members** in the **Members** tab, and move it to the **Assigned Members** list.

d. Select the managed systems and managed system groups in the **Distributions** tab, to assign to the historical configuration group. Select a managed system group to see its constituent objects in the **Selected Assigned Object Members** or **Selected Available Object Members list**.

e. Click **OK** to save the historical group and return to the Historical Collection Configuration window.
The distribution from the historical configuration group (or groups) that the collection belongs to is shown in the Start collection on list; the entries are dimmed to indicate that they were assigned through a historical configuration group and cannot be changed from here. You can right-click a dimmed entry and click Show Groups to see the historical groups it belongs to.

5. Click **Apply** to save the collection definition and start data collection on the managed systems.

The collection shows in the tree as distributed to indicate that data collection is taking place on the assigned managed systems.

Chapter 7. Navigator Views for Logical Organization

Navigator Views for Logical Organization

This chapter deals with creating Navigator views and building workspaces that are targeted for specific points of view, such as executive, operator, or subject matter expert for an application domain. The Navigator editor enables you to create new Navigator views and build a hierarchical structure by creating new *child* items as branches in the tree and sharing items from a source Navigator view with the new (target) view. You can assign managed system groups to dynamically update Navigator items whenever the group is edited.

Custom Navigator View Characteristics

Custom Navigator views and the Navigator Physical view have characteristics that distinguish them from one another. Understanding these distinctions and the customization options can help you design the most effective Navigator views.

Navigator Physical view

The Navigator Physical view is the default Navigator view. It shows your monitored enterprise as a physical mapping of managed systems by their node names and operating systems. The Navigator Physical view is a discovered view: as managed systems are added to the monitored environment, the Marvel Enterprise Portal Server discovers them and displays them in the Navigator view.

As well as showing the physical hierarchy of your environment, the Navigator gives you visual indication of situation events that occur on managed systems associated with a Navigator item and organizes your workspaces.

You can create situations and associate them with the Navigator items where you want to see alert indicators and you can create workspaces and report data from the managed systems assigned to that branch of the tree. But you cannot edit the Navigator Physical view itself.

Custom Navigator views

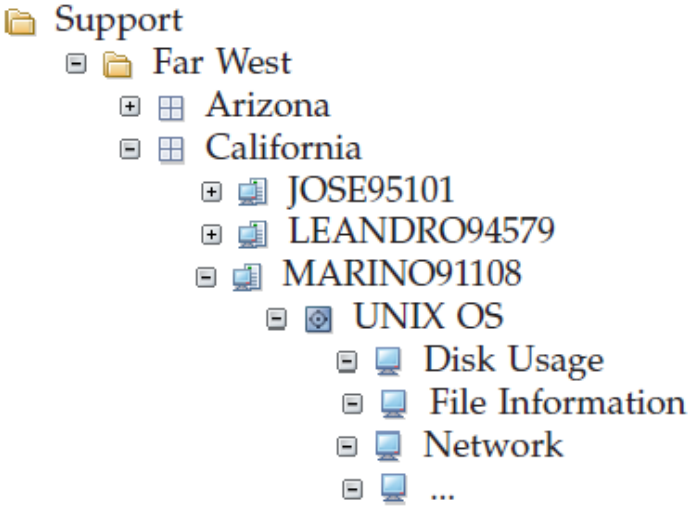
You can create Navigator views for logical hierarchies, such as by location or business application. With custom Navigator views, you can create Navigator items and determine their managed system assignments. You can add Navigator items either by dragging and dropping them from a source Navigator view to the target view or by creating them manually. The drag and drop method *shares* the item in the source and target Navigator

views. When you share an item, all managed system assignments, workspaces, and situations associated with the source item are applied. Future changes to one item are applied to the other. A **shared** icon is displayed over the source and target Navigator item icons. It provides a visual reminder of the relationship so that you do not unintentionally change or delete an item from one Navigator view that might affect another view. You cannot change the managed system assignments of Navigator items that were shared using the drag and drop method.

For Navigator items added with **Create child item**, you control the management system assignments:

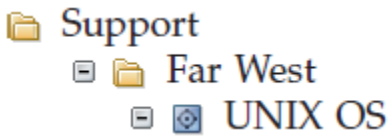
- Navigator items with no managed systems assigned cannot have situations associated with them, thus no alert indicators are displayed on the item except as part of the roll-up display of events. This might be what you want for a container (parent) Navigator item.
- Navigator items can have managed system assigned *statically*. When creating the item, you assign managed systems or managed system groups (or both) through the **Monitored Resources** tab of the Navigator item properties. Initially, static items are not shared with other items nor are situations associated with them.
- Navigator items can have managed systems assigned *dynamically*. When creating the item, you assign a managed system group (or groups) through the **Dynamic Items** tab. The Navigator item is then populated by all the managed systems that belong to that group. For example, you might have a Navigator item named “Far West” with “Arizona” and “California” managed system groups assigned as dynamic items. Any managed systems added or removed from those groups are reflected in the “Far West” branch. The items at the agent and attribute level are shared from the Navigator Physical view.

Figure 4. Navigator Physical view



Options for dynamic members enable you to hide any or all of these items: group level, node level, or attribute level. For example, the Support branch looks like this when all options are disabled:

Figure 5. Support branch



- You can assign managed systems and managed system groups to a new Navigator item, including the assignment of managed system groups as dynamic members.

Creating a New Navigator View

The Navigator Physical view is organized by managed systems. Create custom Navigator views to organize your enterprise differently, such as by geography or user role.

User ID must have Modify permission enabled for the Custom Navigator Views feature.

To create a new Navigator view:

1. Click **Edit Navigator View** in the Navigator toolbar.
   The Edit Navigator View window opens with the Navigator Physical view as the Source View on the right and the Logical view or most recently opened Navigator view as the Target View for editing.
2. Click **Create New Navigator View**.
   A window opens for you to enter the Navigator view identity.
3. Type a `name` for the Navigator and, optionally, a `description`, then click **OK**.
   After you click **OK**, the Navigator view name is displayed as the enterprise item.
   If, instead, you get a message that the name already exists, enter a different name. Because Navigator views are assigned to user IDs, you might not be able to see Navigator views that other users have created and it is therefore possible to enter duplicate names.
4. Take any of the following steps to populate the target Navigator view:
   - To create a new Navigator item, select or right-click the parent item and click **Create Child Item**. See Adding a Child Item *(on page 67)*.
   - To share a Navigator item, drag it from the source view on the right to the target on the left and drop it on the item it should follow. (After selecting the first item, use `Ctrl+click` to select other items or `Shift+click` to select all items between the first selection and this one.) If you want to share Navigator items from a different source view than the one displaying, select the view to use from the **Source View** list.

- To assign managed systems to a Navigator item, right-click the item and click **Properties**. The managed system assignments make the item eligible for situation association and are referenced in query-based views.
  - Click the **Monitored resources** tab for assignments to this item.
  - Click the **Dynamic items** tab for dynamic child assignments to this item.
  - Click the **Symbols** tab to define symbol name/value pairs associated with a physical or logical navigator node.

  > **Tip:**
  > A best practice is to assign managed systems to a Navigator item from the **Monitored resources** tab or **Dynamic items**, but not both.

- To find out if the Navigator item is assigned to other Navigator views or assigned multiple times to this or other Navigator views, right-click the item and click **Show Navigator List**. A number in parentheses after the view name indicates that there are multiple instances of this Navigator item in the Navigator view. You can also switch to another Navigator view in the list.
- To rename an item, right-click it and click **Properties**; to rename the view, click Properties. Edit the `name` and `description` as needed.
- To delete a Navigator item, select it and click **Delete Item**.

5. Click **Apply** to save your changes to the Navigator view and keep the editor open; or click **OK** to save your changes and close the window.

The new Navigator view is displayed in the Navigator view list. Shared Navigator items and dynamic Navigator items show alert indicators for any open events for associated situations. Shared Navigator items also share the workspaces from the source item; all other Navigator items have undefined workspaces.

> **Note:**
> In the Navigator Physical view, Marvel Enterprise Portal indicates an agent has gone offline by dimming the agent branch for that system. This indication occurs in custom Navigator views as well. However, if you share an attribute-level item from the Navigator Physical view with a custom view without sharing its parent agent-level item, you receive no indication when the agent is offline: The attribute item appears normal but when you open its workspace, any chart or table views show no information.

- Open the new Navigator view and review the items to confirm that they reflect the managed system and dynamic member assignments that you created.
- Create workspaces for Navigator items that have none defined.
- If you want the new Navigator view to be available to other users, assign it in the Navigator views tab of the Administer Users window. You can also assign a user to a specific branch in the Navigator, called the Assigned Root, or grant the user access to a specific set of agents, called *Allowed Applications*.
- For items that are not shared, alert indicators for situation events do not automatically show on the Navigator item for every assigned managed system that also has a situation distributed to it. If you want alert indicators, you must associate the situation with a Navigator item.
- For items with static managed system assignments, any new managed systems that come online that you want in the view must be added through the Navigator item properties or by dragging and dropping from the Navigator Physical view to the target view in the Navigator editor.

Related information

Adding a child item *(on page 68)*

Editing Navigator item properties" *(on page 70)*

Deleting a Navigator view or item *(on page 73)*

Adding a Child Item

Use Create Child Item in the Navigator editor to add a Navigator item within the selected branch of the custom Navigator view.

Use the following steps to add a child item to a custom Navigator view:

1. Click **Edit Navigator View** in the Navigator toolbar if the Navigator editor is not open.
2. Select the Navigator view from the Target View list if the Navigator view that you want to work with is not displayed.
3. Select the parent item in the target view.
   The item has a border around it when it is selected.
4. Click **Create Child Item**.
5. Type a `name` and `description` for the item in the **Create New Navigator Item** window.
   The name is displayed in the Navigator view; the description is displayed only in this window.
6. Make static or dynamic managed system assignments:

a. Select the managed systems or managed system groups whose situations you want to associate with the Navigator item.
b. Click ◂ to move them to the Assigned list.

Queries for workspace views are applied to the assigned managed systems by default. Alert indicators are displayed for events that are opened for situations associated with the Navigator item.

- For assignments to this Navigator item, click the **Monitored resources** tab, select the managed systems or managed system groups whose situations you want to associate with the Navigator item, and ◂ move them to the **Assigned** list.
- For dynamic child assignments to this Navigator item, click the **Dynamic items** tab, select the managed system groups to assign to the Navigator item, and ◂ move them to the **Assigned Members** list. Click **Options** to change how branch dynamic items are displayed.
- If you are assigning managed system groups to the Navigator item, you can click **Edit Managed System Groups** to open the Object Group editor: select a managed system group to see and edit the membership; select a managed system type (select **All Managed Systems** if you want to assign managed systems from different managed system types) and click **Create New Group** or **Create Another Group** to add a new managed system group
- Click the **Symbols** tab to define symbol name/value pairs associated with a physical or logical navigator node.

> **Tip:**
> A best practice is to assign managed systems to a Navigator item from the **Monitored resources** tab or **Dynamic items**, but not both.

7. Click **OK**.

- The child item is displayed within the parent item hierarchy, below any other child items, with this icon: .
- A shared icon is displayed over the Navigator items that have been shared. This indicator serves as a reminder so that you do not unintentionally change or delete an item from one Navigator view that might affect another view.
- A dimmed **<Dynamic members>** child item indicates that managed systems are assigned dynamically.

If the child item is in the wrong branch, you can drag it to the desired location to create a duplicate item there, then delete the original item.

Editing a Navigator View

Use the Navigator editor to edit the Navigator view and the managed systems or dynamic members assigned to the items.

To edit the Navigator view follow the instructions:

1. Select the **Navigator view** from the list in the Navigator toolbar.
   You cannot edit the Navigator Physical view.
2. Click **Edit Navigator View**.
3. Select the Navigator view from the **Target View** list (if the Navigator view you want to edit is not displayed as the target). Likewise, you can select a different source from the **Source View** list..
4. Take any of the following steps to populate the target Navigator view:
   - To create a new Navigator item, select or right-click the parent item and click **Create Child Item**. See Adding a Child Item *(on page 67)*.
   - To share a Navigator item, drag it from the source view on the right to the target on the left and drop it on the item it should follow. (After selecting the first item, use `Ctrl+click` to select other items or `Shift+click` to select all items between the first selection and this one.) If you want to share Navigator items from a different source view than the one displaying, select the view to use from the **Source View** list.
   - To assign managed systems to a Navigator item, right-click the item and click **Properties**. The managed system assignments make the item eligible for situation association and are referenced in query-based views.
     - Click the **Monitored resources** tab for assignments to this item.
     - Click the **Dynamic items** tab for dynamic child assignments to this item.
     - Click the **Symbols** tab to define symbol name/value pairs associated with a physical or logical navigator node.

     > **Tip:**
     > A best practice is to assign managed systems to a Navigator item from the **Monitored resources** tab or **Dynamic** items, but not both.
   - To find out if the Navigator item is assigned to other Navigator views or assigned multiple times to this or other Navigator views, right-click the item and click **Show Navigator List**. A number in parentheses after the view name indicates that there are multiple instances of this Navigator item in the Navigator view. You can also switch to another Navigator view in the list.

- To rename an item, right-click it and click **Properties**; to rename the view, click **Properties**. Edit the name and description as needed.
- To delete a Navigator item, select it and click **Delete Item**.

5. Click **Apply** to save your changes to the Navigator view and keep the editor open; or click **OK** to save your changes and close the window.

Click the activated **Navigator updates pending** tool in the Navigator toolbar to refresh the Navigator view.

Related information

Editing Navigator item properties *(on page 70)*

Renaming a Navigator view or item *(on page 72)*

Deleting a Navigator view or item *(on page 73)*

Editing Navigator Item Properties

Open the Navigator item properties to see and edit the name, description, and managed system assignments.

You cannot edit the Navigator Physical view managed system assignments.

To see and edit the name, description, and managed system assignments, follow the steps:

1. Open the Navigator item properties from one of the following places:
   - Right-click the Navigator item and click **Properties**.
   - In the Navigator toolbar, click **Edit Navigator View**. Right-click the Navigator item and click **Properties**.
2. Edit the name and description as needed.
   The name is shown in the Navigator view and the description displays when you move the mouse pointer over the name in the tabbed list at the bottom of the view.
3. Edit the managed system assignments as needed.
   The Assigned list has no effect on the availability of queries for the workspace, only the event indicators for situations. If you have no managed systems assigned to this Navigator item, no events are displayed for it unless they are part of a roll-up display of events, and the Situation editor will not be available from the pop-up menu.

   Monitored resources

Shows the managed systems that were assigned through this tab or by shared Navigator items. If the Assigned list is populated but unavailable (dimmed), the assignments were created by sharing items from the Source Navigator view with the Target view.

Dynamic items

Shows the managed system groups that were assigned through this tab. Use the tab to assign managed system groups to the Navigator item as *dynamic members* (child items) so that the Navigator item and the items it contains are updated automatically when managed systems are added to or removed from the managed system groups. Select a member and click **Options** to change the dynamic Navigator item levels that are displayed in the branch.

Symbols

Shows the symbol name/value pairs associated with a physical or logical navigator node. You can also define Take Action commands that reference these symbol names.

Click the activated **Navigator updates pending** tool in the Navigator toolbar to refresh the Navigator view.

Related information

Editing a Navigator view *(on page 68)*

Navigator Editor and Properties

The Navigator editor is used to create and edit custom Navigator views and has other dialogs to support customization. Two of these dialogs, **Navigator item properties** and **Navigator List** are available from two places: the current Navigator view and the Navigator editor.

Edit Navigator View

Click Edit Navigator View in the Navigator toolbar to open the Navigator editor for creating and maintaining custom Navigator views. The window has two frames: Target View and Right frame.

Navigator Item Properties

When you create a child item in the Navigator editor, this window opens for you to enter the identity and assign managed systems. You can also open the Navigator Item properties

in the Navigator editor or Navigator view by right-clicking a Navigator item and clicking Properties.

Adding or Editing a Symbol

Define symbol name/value pairs associated with a physical or logical navigator node.

Assigned Member Options

Click Options in the **Assigned Members** area of the custom **Navigator item** properties to determine how the branch is populated.

Navigator List

After you right-click an item in the Navigator view or in the Navigator editor and click **Show Navigator List**, this dialog box opens with a list of the Navigator views that the Navigator item belongs to.

The Navigator views shown include the current Navigator item. A number in parentheses after the view name indicates that there are multiple instances of this Navigator item in the Navigator view. For example, Logical (2) means the Navigator view has two instances of this item.

To open another Navigator view, select it and click **Switch to**.

Renaming a Navigator View or Item

Use the Navigator editor to rename a Navigator view or any of its Navigator items or to edit the description.

To rename or edit a Navigator view follow the below steps :

1. Click **Edit Navigator View** in the in the **Navigator** toolbar.
   If the Navigator view whose item you want to rename is not displaying, select it from the **Target View** list.
2. Click **Properties** in the **Target View** toolbar to rename the **Navigator view**. Type the new name in the `Name` field, add or change the description in the `Description` field, and click **OK**.
3. Right-click the item and click **Properties**to rename a **Navigator item**. Type the new name in the `Name` field, add or change the description in the `Description` field, and click **OK**.

The Navigator view description is displayed in a flyover message box when you move the mouse pointer over its tab; the Navigator item description is displayed only in this Properties window.

Related information

Editing a Navigator view *(on page 68)*

Deleting a Navigator View or Item

Use the Navigator editor to delete a Navigator view or any of its Navigator items.

CAUTION:

Be careful when deleting Navigator items. A shared icon is displayed over the source and target Navigator item icons to indicate a relationship with another item. This indicator serves as a reminder of the dependency so that you do not unintentionally change or delete an item from one Navigator view that might affect another view. To see the Navigator views this item is assigned to, right-click the item and click **Show Navigator List**.

Complete the following steps to delete a Navigator view or item:

1. Click **Edit Navigator View** in the in the Navigator toolbar.
2. Select the Navigator view from the **Target View** list if it is not displayed, .
3. Take one of the following actions:
    - To delete the Navigator view, click **Delete Navigator View**. When a message asks if you are sure, click **Yes** or click **No** to cancel.
    - To delete an item, select it and click **Delete Item**. When a message asks if you are sure, click **Yes** or click **No** to cancel.

- If you delete the current Navigator view (the one showing when you opened the Navigator editor), **Navigator updates pending** is displayed in the Navigator view toolbar. Click this tool to remove the deleted Navigator view and open the next Navigator view.
- Deleted Navigator items are not removed from any graphic views that you have created in workspaces for the Navigator view. You need to delete the items manually from the view itself.
- When an agent is removed from the managed network, **Navigator updates pending** is displayed in the Navigator Physical view toolbar for you to refresh the view. This also happens for custom Navigator views with dynamic Navigator item members. For Navigator items with no dynamic members (child items), you must delete the agent's Navigator item to remove it from the display.

Related information

Editing a Navigator view *(on page 68)*

Appendix A. Formula functions

Boolean AND and OR

The tabular editors work with Boolean AND and OR logic.

Multiple Expressions

Enter multiple expressions in the same row if they must all be met (Boolean AND logic) and on separate rows if any of them can be met (Boolean OR logic) to set the situation to true. For example, if you want a situation to fire when either disk time OR disk space is at least 90% on myserver, the condition would look like the one shown here.

% Disk Time	% Used	Server Name
>= 90		== myserver
	>= 90	== myserver

Branching OR Expressions

If you are building a situation or setting a filter or threshold where you want an OR expression to branch at a specific AND expression, repeat the AND expression in a new row with the OR expression.

In the situation example below, the comparisons are true if the notepad process exceeds 50 seconds AND the virtual bytes exceed one million OR the notepad process on myserver exceeds 50 seconds AND the page faults exceed 100,000 per second.

Table 16. Branching OR expressions - disk time

Process Name	Elapsed Time	Virtual Bytes	Page Faults/sec
== notepad	> 500000	> 1000000	
== notepad	> 500000		> 100000

Repeating Attributes in AND Expressions

Some situation formulas require you to repeat the same attribute in an AND expression for a certain outcome.

If you are constructing a situation that requires repeating an attribute, each instance of the attribute must appear in its own column. To repeat an attribute in a new column of the Situation editor:

- Click **Add Conditions** and select it from the **Select condition** window.

Example 1:

- This situation is true when the notepad process occurs more than four times in the same data sampling. The user wrote the first expression to check for notepad, then clicked **Add Conditions** and selected Process Name again to create a new column and add another expression to count these processes.

	Process Name	**Process Name**
1	== notepad	> 4

Example 2:

- This situation is true when the day of the week is 02 to 06 (Monday to Friday).

	Day of Week	**Day of Week**
1	>= 2	<= 6

Appendix B. Marvel Enterprise Monitoring Server and global attributes

Situation Definition Attributes

The Situation Definition attributes supply you with the complete definition of situations. You can apply the predefined query for this group (in the Query editor under **Marvel Enterprise Monitoring Server > Situation Definition**) to charts and tables; you cannot use these attributes in situations.

Advice

The expert advice for a situation that appears in the event workspace.

Affinities

The internal identification number for the agent and attribute group referenced in the situation.

Alert List

Whether or not events for this situation belong to an alert list.

Auto SOPT

The auto SOPT.

Auto Start

Whether the situation is set to autostart, *YES, or to be started manually, *NO.

Command

The type of command specified in the Action tab.

Description

The description written for the situation.

Destination Node

The managed system to which the situation is distributed.

Event Attribute

A single digit to describe the type of event.

HUB

The name of the hub monitoring server that controls the situation.

Interval Days

A two-digit number to express the interval between data samplings.

Interval Seconds

A six-digit number that expresses the time between data samplings.

Last CCSID

Internal identifiers of the situation expressions.

Last Date

The date of the last revision to the situation. The format is CYYMMDDHHMMSSmmm (as in 1050415074501000 for April 15, 2005 at 07:45:01) where:

C =Century (0 for 20th, 1 for 21st)

Y =Year

M =Month

D =Day

M =Minute

S =Second

m =millisecond

Last Release

The last release to associate with the situation.

Last User

The user ID of the last person to update the situation.

Location Flag

The location flag identifier.

NOCOL

Whether this is a no column attribute.

Notify Arguments

Any notification arguments.

Notify Options

Any notification options.

Object Lock

The object lock.

Predicate

The formula, including the detailed names of the attribute group and attributes.

QIBCLASSID

The query information base class ID.

QIBSCOPE

The scope of the query information base.

Reflex OK

Whether an action command has been set.

Send Message Q

The universal message that will be sent when the situation is true.

Sit Info

Any other information about the situation.

Situation Name

The unique identifier given to the situation or policy.

Full Name

The name given to the situation or policy. The name can be up to 256 bytes long.

Source

The situation source.

Universal Time Attributes

The Universal Time attributes show the time and date at the monitoring agent expressed in UTC (Coordinated Universal Time) format. For example, if the UTC time is 19:15.00 for an agent in New York, the local time is 2:15 PM Standard Time. These attributes are useful for action situations triggered by time. The Universal Time attributes show the time and date at the monitoring agent expressed in UTC (Coordinated Universal Time) format. For example, if the UTC time is 19:15.00 for an agent in New York, the local time is 2:15 PM Standard Time. These attributes are useful for action situations triggered by time.

Note:

- When building situations, you will see that the Universal Time attribute group can be combined with any attribute group to create a condition.
- The attributes are not available in Marvel Enterprise Monitoring Server queries.
- Seconds, Minutes, Hours, and Day Of Month are treated as two-character text attributes. For example, == 05 Minutes is correct, but == 5 Minutes will never be true.

Time	Definition
Day Of Month	The day in the month at the agent location when the data was sampled, from 01 to 31. The first day of the month is 01.
Day Of Week	The numeric representation for the day in the week at the agent location when the data was sampled, from Sunday to Saturday. Select the day from the list.
Hours	The hour in the day at the agent location when the data was sampled, from 00 to 23, such as 01 for 1 am.
Minutes	The minute in the hour at the agent location when the data was sampled, from 00 to 59, such as 05 for the fifth minute.
Month Of Year	The numeric representation of the month in the year at the agent location when the data was sampled. Select the month from the list.
Time	The time at the agent location when the data was sampled, formatted as HHMMSS. For example, 153000 is 3:30 PM
Timestamp	The time stamp at the agent location when the data was sampled. The format is MM/DD/YY HH:MM:SS.

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