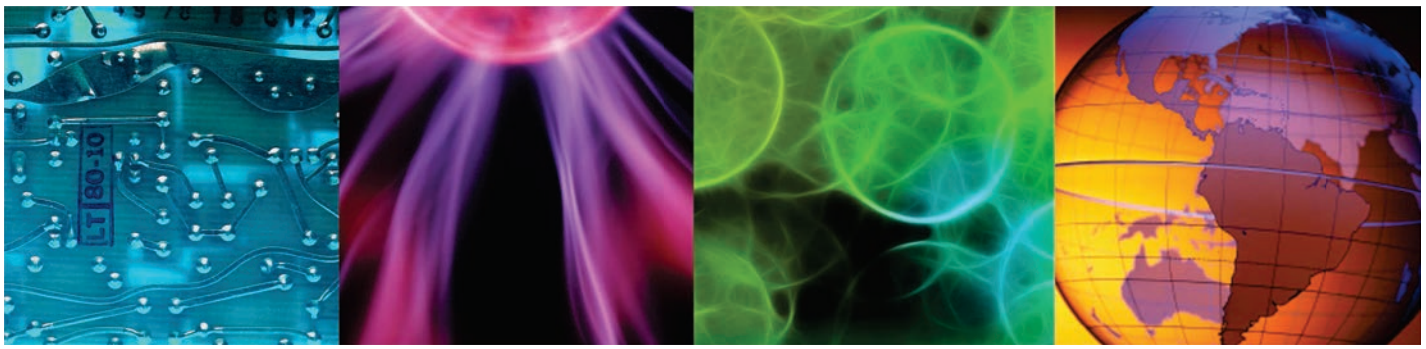
IBM Training

IBM Tivoli Monitoring 6.3 Fundamentals

Student Notebook

Course code TM023 ERC 1.0

October 2013



Cloud & Smarter Infrastructure

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Contents

About this course

IBM® Tivoli® Monitoring products monitor the performance and availability of computer operating systems and applications. In this 3-day classroom course, you learn about the Tivoli Monitoring architecture and how to navigate the Tivoli Enterprise Portal. You also learn how to manage situation events, visualize real-time and historical data, manage user authorities, and publish monitoring workspaces. This course is designed for users and administrators of all Tivoli Monitoring products that use the Tivoli Enterprise Portal as the user interface. It is also intended to help new users of Tivoli Monitoring to use the tools to effectively manage their enterprise monitoring.

The course duration is 3 days.

This course is delivered as instructor-led in a classroom or instructor-led online.

The lab environment for this course uses SUSE Linux 11 and Windows 2008 platforms.

For information about other related Tivoli courses, visit the Cloud & Smarter Infrastructure education training paths website:

ibm.com/software/software/tivoli/education/

	Details
Delivery method	Classroom or instructor-led online (ILO)
Course level	ERC 1.0
	This course is an update of the following previous course: TM022: IBM Tivoli Monitoring 6.2.3 Fundamentals ERC1.0
Product and version	IBM Tivoli Monitoring 6.3
Duration	3 days
Skill level	Basic

About the student

This course is designed for operators and administrators responsible for their enterprise monitoring infrastructure. It is also intended to help new users of Tivoli Monitoring to use the tools to effectively manage their enterprise monitoring.

Before taking this course, make sure that you have the following skills:

- The ability to navigate Linux and Windows applications
- A working knowledge of an Internet browser

Learning objectives

Learning objectives

When you complete this course, you can perform the following tasks:

- Describe the Tivoli Monitoring architecture.
- Use and navigate the Tivoli Enterprise Portal to monitor and manage an enterprise monitoring solution that is built with Tivoli Monitoring.
- Manage the Tivoli Monitoring infrastructure by starting and stopping components, by using the self-monitoring workspaces and topology, and building managed system groups.
- Build situations to monitor the enterprise.
- Access situation events, situation event details, and status changes.
- Manage events effectively by using facilities that are provided with Tivoli Monitoring.
- Visualize enterprise monitoring data, personalize workspace data, and build workspace views.
- Manage historical data collection and use historical data within Tivoli Enterprise Portal.
- Manage user authorizations and user groups.

Course agenda

The course contains the following units:

1. Introduction and overview

   This unit teaches the architecture, the purpose, and the positioning of IBM Tivoli Monitoring 6.3. It introduces basic terminology that relates to the product and describes several Tivoli Monitoring products that use the Tivoli Enterprise Portal as their user interface.

   The exercises for Unit 1 teach starting and logging in to the lab systems and verifying connectivity.

2. Using and navigating the Tivoli Enterprise Portal

   This unit focuses on the components of your portal client application window and navigating the application. When talking about Tivoli Enterprise Portal and IBM Tivoli Monitoring, you must understand some of the basic terms and functions.

   When you complete these exercises, you can perform the following tasks:

   - Start the Tivoli Enterprise Portal clients.
   - Describe the components of the application window.
   - Switch Navigator views.
   - Navigate workspaces by using Navigator items and links.
   - Describe the process of how data is collected and displayed.

3. Managing Tivoli Monitoring components

   This unit shows how to manage the Tivoli Monitoring infrastructure by starting and stopping components. In addition, you learn about managed systems and managed systems groups.

   Managing Tivoli Monitoring components exercises

4. Monitoring your enterprise

   This unit shows how to monitor the enterprise through situation events. You monitor your enterprise resources by generating situations to trigger situation events when a condition occurs that requires attention. You learn about the different settings you can apply to situations, and what effect they have.

5. Situation event management

   This unit introduces the Dashboard Application Services Hub (DASH), that provides an alternative user interface to IBM Tivoli Monitoring 6.3.

6. Visualizing monitoring data

   During this course, you used the portal client to generate and manage situation events. This unit teaches how to visualize enterprise monitoring data, personalize workspaces, and provide

the data that is needed to build workspace views. You focus on the data visualization aspects of the portal client. You also learn how to structure the workspaces in Navigators, design workspaces, and use queries.

7. Introduction to Dashboard Application Services Hub

   This unit introduces the Dashboard Application Services Hub (DASH), that provides an alternative user interface to IBM Tivoli Monitoring 6.3.

   These exercises provide experience with the Infrastructure Management Dashboards for Servers that is provided with the IBM Tivoli Monitoring 6.3 installation media. After you learn to navigate the dashboard, you use the Dashboard Application Services Hub and the Tivoli Monitoring connection to build a simple dashboard to monitor available memory.

8. Historical data collection

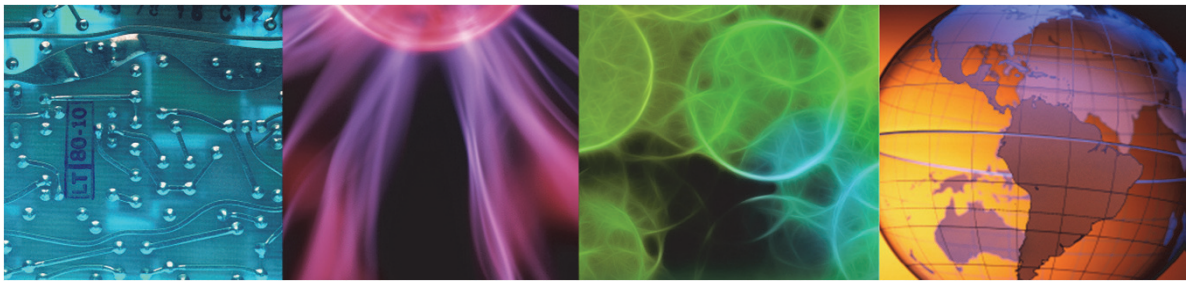
   This unit shows how to collect historical data, prune and summarize data, manage data retention, and view historical data in workspace views. The unit also introduces Tivoli Common Reporting.

9. Managing user security and publishing workspaces

   This unit shows you how to manage Tivoli Portal Client users and control access to features and workspaces.

1 Introduction and overview

1 Introduction and overview



What this unit is about

This unit teaches the architecture, the purpose, and the positioning of IBM Tivoli Monitoring 6.3. It introduces basic terminology that relates to the product and describes several Tivoli Monitoring products that use the Tivoli Enterprise Portal as their user interface.

How you check your progress

You can check your progress in the following ways:

- Review questions
- Lab exercises

Objectives

When you complete this unit, you can perform the following tasks:

- Describe the purpose and positioning of IBM Tivoli Monitoring.
- List the architecture and components of an enterprise monitoring solution.
- Describe each component of IBM Tivoli Monitoring.
- Use the basic product terms of IBM Tivoli Monitoring.
- List some Tivoli monitoring products that use the Tivoli Enterprise Portal client as their user interface.

Objectives

Lesson 1. Purpose and positioning

Lesson 1: Purpose and positioning

- This course introduces you to IBM Tivoli Monitoring and provides you with the skills you need to manage the resources used for business operations of your company.
- Before you start using IBM Tivoli Monitoring and its components, you should learn these key points:
  - What the Tivoli Enterprise Portal is
  - Usage of the portal client with other IBM monitoring solutions
  - The basic terms you need for working effectively with the product

What this lesson is about

This course is the first step toward learning to use IBM Tivoli Monitoring to monitor and manage an enterprise monitoring solution. It is for operators and administrators who are responsible for managing systems and resolving resource problems. These problems can affect the availability or performance of applications and business operations.

This course describes the steps that you use to manage incidents with Tivoli Enterprise Portal. It also introduces the terminology to communicate effectively with other IBM Tivoli Monitoring 6.3 users and administrators. The roadmap to learning Tivoli Monitoring also includes other courses for implementation and administration tasks.

What you should be able to do

After completing this lesson, you should be able to describe the purpose and positioning of the IBM Tivoli Monitoring enterprise monitoring solution.

Enterprise monitoring

- Enterprise monitoring is managing resources that are crucial for your daily business operations.
- Enterprise monitoring data might be
  - Incidents that indicate potential problems that require attention
  - Real-time statistics about a particular resource or application
  - Historical statistics that provide insight into the long-term behavior of components
- Use IBM Tivoli Monitoring to
  - View availability and performance data that provides insight into the components, applications, and services in your enterprise.
  - Receive notifications of incidents that require attention.
  - Diagnose problems.

Enterprise monitoring

An enterprise monitoring solution gives feedback on two topics:

- Availability of applications
- Applications that are or are not providing the performance that users require.

Specific systems, such as z/OS or UNIX®, and subsystems such as DB2® and CICS®, require monitoring. Large enterprises need feedback about application availability and performance. In addition, enterprise monitoring might provide service availability and performance statistics of the business operations of a company.

IBM Tivoli Monitoring approaches this solution in several ways:

- Users can monitor specific IT systems.
- Users can build relationships between the IT infrastructure statistics and business parameters to enable enterprise systems monitoring.
- Users can set up automated responses to resolve discovered issues before they affect the enterprise.

IBM Tivoli Monitoring positioning

- IBM Tivoli Monitoring 6.3 is a systems monitoring solution.
- It is an integral part of the OMEGAMON and Tivoli Composite Application Manager products.
- Use it for monitoring resources, including distributed systems, mainframe systems, databases, and applications.

IBM Tivoli Monitoring positioning

Tivoli Monitoring is the framework for monitoring solutions available from IBM, and replaces many of the previous monitoring environments.

It provides a common look and feel and also integrates other solutions into the same user interface. Some examples are:

- OMEGAMON® XE for WebSphere® MQ
- OMEGAMON XE for CICS on z/OS
- OMEGAMON XE on z/OS
- Tivoli Composite Application Manager for Applications
- OMEGAMON XE for UNIX

Lesson 2. Architecture and components

Lesson 2: Architecture and components

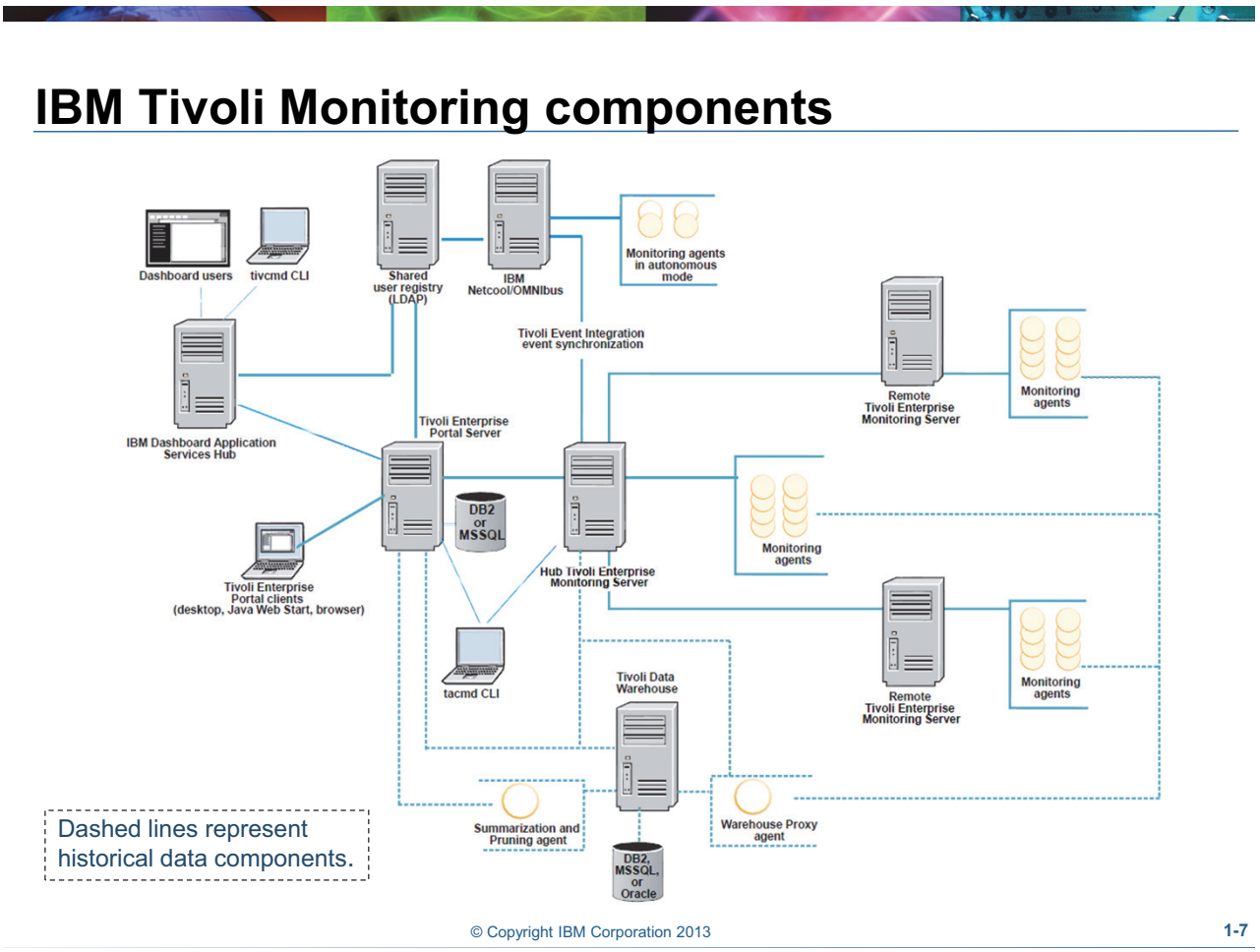
- IBM Tivoli Monitoring implements a client-server architecture.
- The IBM Tivoli Monitoring infrastructure includes all components an enterprise monitoring solution needs.
- Those components, called Tivoli Management Services, include
  - Tivoli Enterprise Portal
  - Tivoli Enterprise Portal Server
  - Tivoli Enterprise Monitoring Server
  - Tivoli Enterprise Monitoring Agents
- Optional components
  - Historical data collection
    - Warehouse Proxy agent
    - Summarization and Pruning agent
    - Tivoli Data Warehouse
  - Dashboard Application Services Hub
    - Tivoli Monitoring dashboards
    - Tivoli Common Reporting
    - Tivoli Enterprise Monitoring Automation Server

What this lesson is about

The IBM Tivoli Monitoring infrastructure, referred to as ***Tivoli Management Services (TMS)***, consists of all the components necessary to build an enterprise monitoring solution. This slide introduces the Tivoli Monitoring components. Each monitoring solution consists of a multitier client/server architecture. The depth of the architecture depends on whether you use remote Tivoli Enterprise Monitoring Servers.

What you should be able to do

After completing this lesson, you should be able to list the components that comprise the monitoring solution.



IBM Tivoli Monitoring components

Although components are installable on different systems, it is possible to install all components on a single Windows® or Linux® computer. Some exceptions remain, such as platform-specific agents.

From right to left, this slide shows the flow of data:

1. The Tivoli Enterprise Monitoring Agent collects the data.
2. Tivoli Enterprise Monitoring Servers provide monitoring and automation functions.
3. The Tivoli Enterprise Portal Server is the interface between Tivoli Enterprise Portal clients that request monitoring data and the monitoring server and agents that provide that data. Furthermore, the portal server is the central repository for portal client user information and GUI-based views into the monitoring environment.
4. The Tivoli Enterprise Portal client is the Java-based user interface for viewing and monitoring your enterprise. Tivoli Enterprise Portal client offers three modes of operation: desktop, browser, and Java Web Start.
5. The Dashboard Application Services Hub (DASH) hosts dashboards that provide monitoring agent status and events.

The components that are connected by dotted lines comprise the historical data collection and summarization environment. Monitoring agents collect data snapshots at regular intervals and upload that data to the Warehouse Proxy agent, which stores the data in the Tivoli Data Warehouse database. The Summarization and Pruning agent scans the warehouse database and summarizes the detail data, and prunes (deletes) obsolete data.

Tivoli Enterprise Monitoring Agents

- Collect data from managed systems
- Can be local or remote, depending on monitored system
- Store collected values as attributes in attribute groups to simplify managing large amounts of data
- Monitor for problems and can issue system commands
- Can store short-term historical data
- Can be one of three types
  - Operating System (OS)
  - Application
  - Specialized
- Available on z/OS, UNIX, Linux, Linux on zSeries, i5, and Windows

Tivoli Enterprise Monitoring Agents

Every monitoring solution depends on performance parameters or attributes that it collects from different systems, or resources, in your enterprise. The component that collects these parameters is the Tivoli Enterprise Monitoring Agent.

You might come across terms such as IRA (intelligent remote agent), monitoring agent, or even OS monitoring agent. Commonly, all these terms describe the agent that is responsible for collecting data from your systems. Some agents can run remotely, others you must install on the monitored system.

For example, you must install the Windows agent on the monitored system. However, an SAP R/3 agent can monitor multiple SAP systems remotely from a different system within your IT infrastructure.

Besides, collecting the monitoring data for your enterprise monitoring solution, the agents can perform functions such as these examples:

- Monitoring for problems on the monitored system
- Issuing system commands in case a problem occurs
- Collecting and storing historical data

Monitoring agent types

- Operating System (OS) Agents
  - Collect operating system metrics for Linux, UNIX, Windows, i5/OS, and z/OS
  - Provide agent infrastructure for application agents
- Application Agents
  - Collect application metrics for supported applications and devices, such as databases, web environments, enterprise applications, and data center devices.
  - Utilize the agent infrastructure provided by OS agents.
- Specialized Agents
  - Perform specialized functions.
  - Include the following agents.
    - Warehouse Proxy agent
    - Summarization and Pruning agent
    - Agent Builder agents
    - Tivoli Log File agent

Monitoring agent types

Tivoli Enterprise Monitoring Server

- Serves as the collection and control point for agents
- Manages connection status of components using heartbeats
- Stores and tracks all active conditions
- Controls authentication of users accessing the ITM environment
  - User IDs defined to the operating system, or
  - User IDs defined in shared user registry (LDAP)
- Uses a proprietary EIB (Enterprise Information Base) database to store its data.
- Can be either a hub server or remote server

Tivoli Enterprise Monitoring Server

Every IBM Tivoli Monitoring installation must contain at least one Tivoli Enterprise Monitoring Server that you configure as a hub. There is only one hub server, but numerous remote servers. The hub server functions as the point that all portal servers and the agents connect to.

You can use remote Tivoli Enterprise Monitoring Servers to scale the enterprise.

Some agents that run on z/OS® might need remote monitoring servers that run within the monitoring server address space.

When you activate security, the hub server is responsible for user authentication through a login process. It does not provide this service directly. Instead, an administrator configures it to use the authentication service of either the local operating system or a directory server that uses Lightweight Directory Access Protocol (LDAP).

Tivoli Enterprise Monitoring Server (continued)

- Stores the following information:
  - Situation definitions
  - Policy definitions
  - Situation status changes
  - Short-term historical data
- Available on z/OS, UNIX, Linux, Linux on zSeries, and Windows

Some functions that the monitoring servers perform are:

- Storing situations and executing multi-system situations
- Storing and executing policies, also known as ***workflow automation***
- Controlling security (authentication) settings through a login password
- Optionally storing historical data until it is uploaded to the data warehouse
- Forwarding of situation events to an Event Integration Facility (EIF) receiver, such as Tivoli Enterprise Console or OMNIbus

If you are familiar with the Tivoli Management Environment architecture, think of a hub server as a Tivoli Management Region server. Think of a remote monitoring server as a mainframe and distributed environments support monitoring services.

Tivoli Enterprise Portal Server

- Provides the presentation layer
- Serves as repository for user definitions, user access settings, and display layouts
- Controls access to data and portal client functions by user ID
- Connects directly to the hub monitoring server
- Stores its data in IBM DB2 UDB, Microsoft MS SQL, or Derby database
- Stores information as follows in the portal server database:
  - Portal client user IDs
  - Queries
  - Navigators
  - Workspaces and views
  - Links
- Available on AIX, Linux, Linux on zSeries, and Windows

Tivoli Enterprise Portal Server

The Tivoli Enterprise Portal Server is an important part of every Tivoli Monitoring installation. The portal server controls the authorization part of security, tracking the permitted tasks for a user.

It stores the following data:

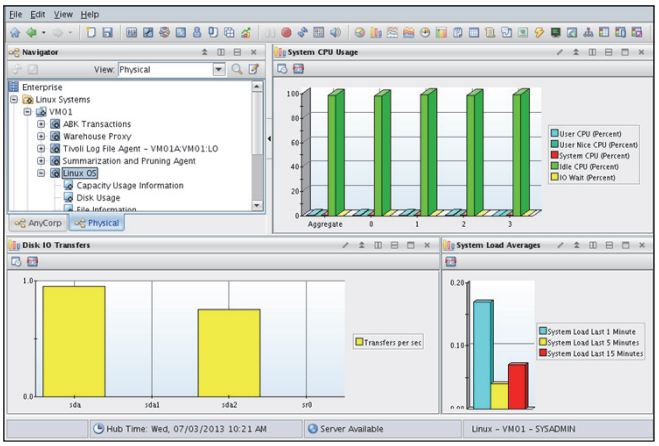
- All user data
- The display settings for each user, such as workspaces and views
- Queries for retrieving data from sources, such as agents

It also controls data display and access to functions by user ID, independent of the client you use for accessing the portal client. The same information is shown in the same way, whether you access it from your office system, another workstation, or your home system.

You can install the portal server on distributed or mainframe systems.

Tivoli Enterprise Portal client

- Provides the graphical user interface (GUI) for viewing and monitoring collected data
- Offers three modes of operation:
  - Desktop: Java client manually installed from product media
  - Browser: Web browser interface, Internet Explorer or Firefox
  - Java Web Start: Java client installed from portal server using Java Web Start (javaws)



Tivoli Enterprise Portal client

The Tivoli Enterprise Portal client is the Java-based graphical user interface for viewing and monitoring your enterprise. It provides easy navigation through your monitored resources and their reports. It also provides visual notification and management of situation events.

The portal client offers three modes of operation:

- Desktop
- Browser
- Java Web Start

Note: The next unit describes the three clients in more detail.

Tivoli Data Warehouse

- Provides storage for historical data
- Supports IBM DB2 UDB, IBM DB2 on z/OS, Oracle, and Microsoft SQL Server
- Uses Warehouse Proxy agent to collect short-term historical data from the monitoring agents and load the data into the Warehouse database
- Uses Summarization and Pruning agent to control database size
- Is accessible by the portal client or Tivoli Common Reporting for viewing historical data
- Stores information as follows in the warehouse database:
  - Detailed historical data
  - Summarized data: hourly, daily, weekly, monthly, quarterly, yearly

Tivoli Data Warehouse

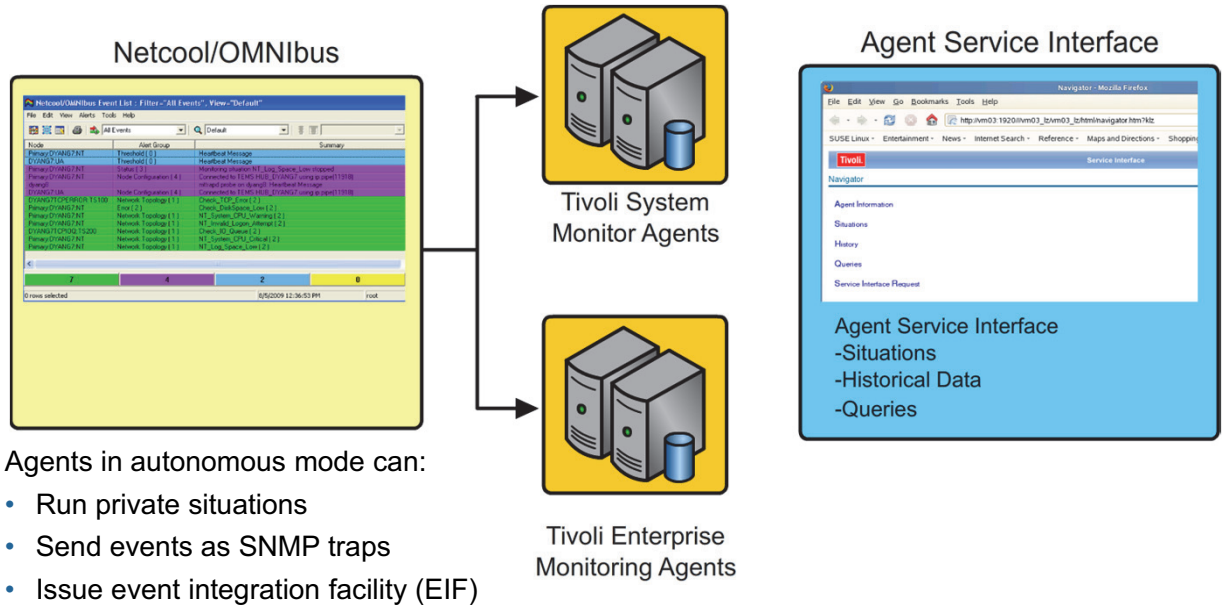
With the Tivoli Data Warehouse, you can analyze historical trends. The Tivoli Data Warehouse uses a DB2, Oracle®, or Microsoft® SQL Server database to store historical data that agents collect across your environment. Agents forward historical data to one or more Data Warehouse Proxy agents directly or through the monitoring server.

You can see short-term or long-term historical data in workspace views. You can also generate reports to provide information about the availability and performance of your monitoring environment over time.

Tivoli Common Reporting is the reporting service for IBM Jazz for Service Management. IBM Tivoli Monitoring provides ready-to-use reports for performance and availability. These reports use summarized historical data that is stored in the Tivoli Data Warehouse database.

You can also use non-IBM reporting software, such as Crystal Reports® or Brio®, to generate reports.

Agent autonomy



Agents in autonomous mode can:

- Run private situations
- Send events as SNMP traps
- Issue event integration facility (EIF) events
- Collect private historical data
- Operate without a monitoring server

1-15

Agent autonomy

Monitoring agents can operate in ***autonomous*** mode, no monitoring server required. Agents in autonomous mode can run enterprise situations, forward events to an SNMP receiver, such as Netcool/OMNIbus, and collect historical data.

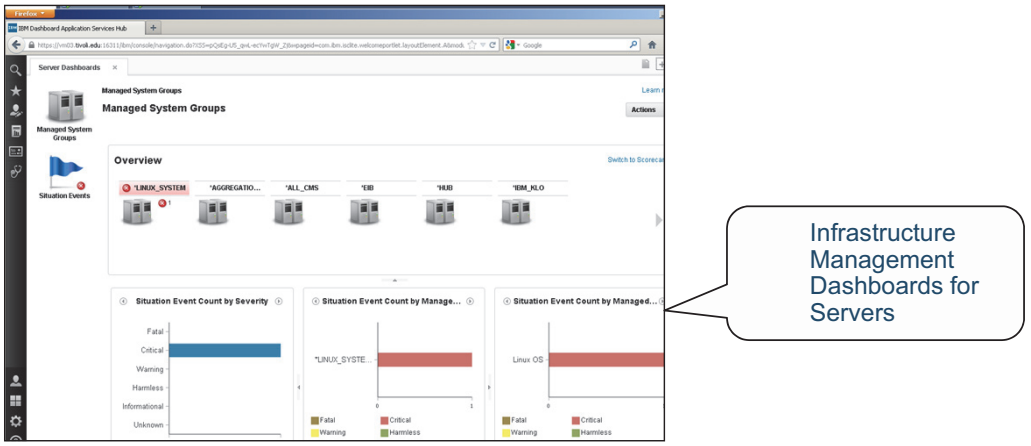
Tivoli System Monitor Agents are not dependent on a monitoring server. These agents use the same agent code as regular agents, but they are installed by using different media and procedures. System monitor agents cannot coexist with any Tivoli Management Services component or any monitoring agent.

An ***Agent Service Interface*** tool provides a user interface to autonomous agents. This tool retrieves situation and private historical data from either the regular monitoring agents or system monitoring agents.

The IBM Tivoli Monitoring Advanced Administration course describes agent autonomy in detail.

Dashboard Application Services Hub (DASH)

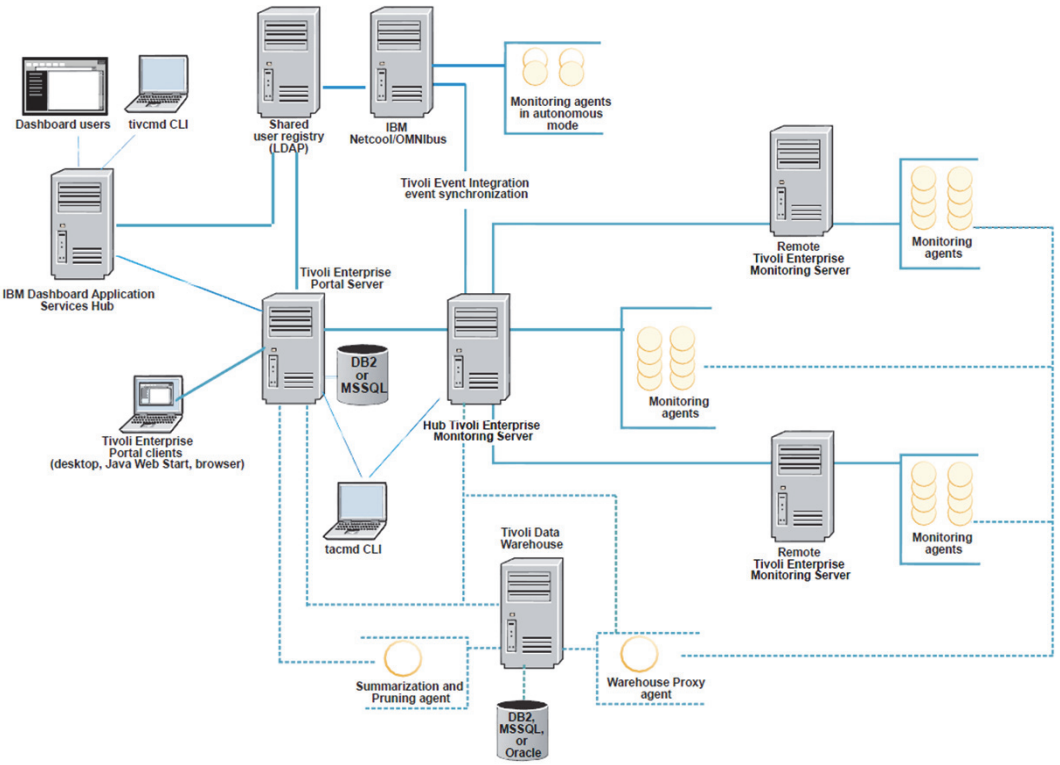
- Jazz for Service Management visualization services
  - WebSphere Application Server instance
  - User interface formerly known as Tivoli Integrated Portal
- Hosts applications, Tivoli Common Reporting, dashboards



Dashboard Application Services Hub (DASH)

The Dashboard Application Services Hub is an instance of WebSphere Application Services. The IBM Tivoli Monitoring installation media provides a sample dashboard. Installation and configuration instructions are in the *IBM Tivoli Monitoring: Administrator's Guide*.

IBM Tivoli Monitoring components



IBM Tivoli Monitoring components

This page repeats the monitoring components diagram.

Lesson 3. Monitoring solutions with the Tivoli Enterprise Portal

Lesson 3:
Monitoring solutions using the Tivoli Enterprise Portal

Tivoli Enterprise Portal is the user interface to

- IBM Tivoli Monitoring for Applications, Cluster Managers, Databases, Messaging and Collaboration, Virtual Servers, and more…
- OMEGAMON XE for z/OS, CICS, IMS, DB2, Mainframe Networks, more…
- OMEGAMON XE for Messaging z/OS and Distributed
- IBM Tivoli Composite Application Manager (ITCAM) for WebSphere and J2EE, Services Oriented Architecture (SOA), Transactions, Web Resources, more…
- System Automation for z/OS, NetView on z/OS
- IBM Tivoli Performance Analyzer
- IBM SmartCloud Monitoring

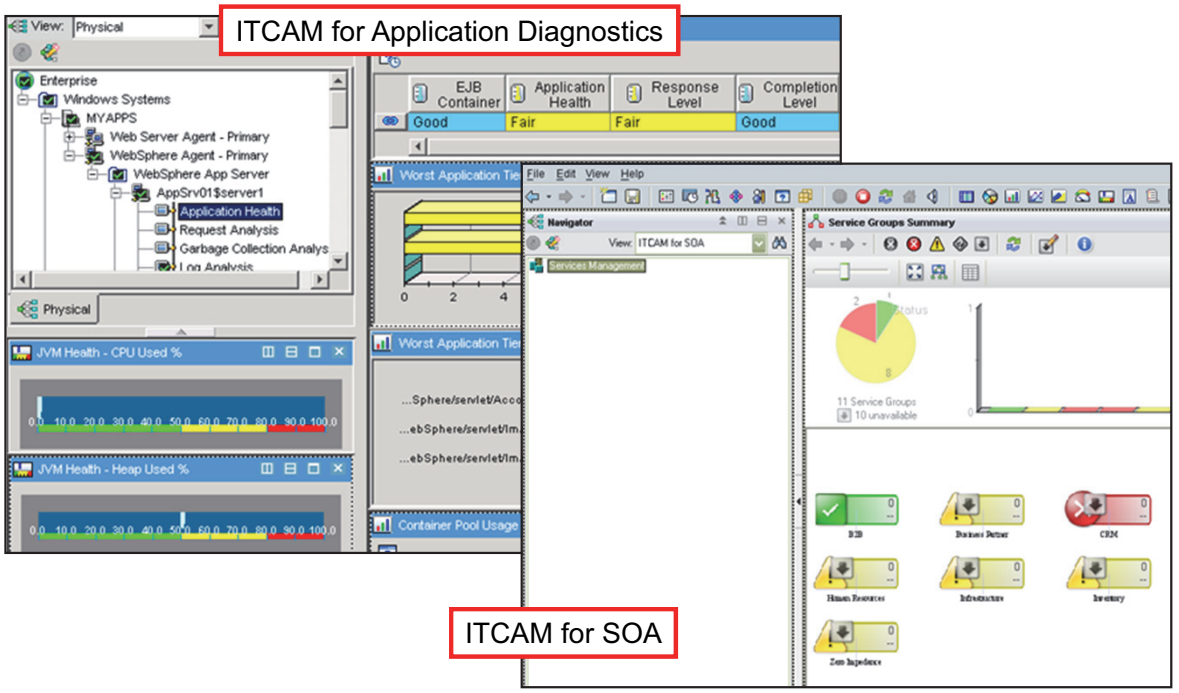
What this lesson is about

Many Tivoli Monitoring products report their data to the Tivoli Enterprise Portal. If you know how to manage monitoring activity (situations) for one product, you can manage activity for all of them. This page is a small subset of the Tivoli Monitoring, ITCAM, and OMEGAMON products that use the portal client as their interface.

What you should be able to do

After completing this lesson, you should be able to describe several Tivoli monitoring products that use the Tivoli Enterprise Portal as their user interface.

IBM Tivoli Composite Application Manager



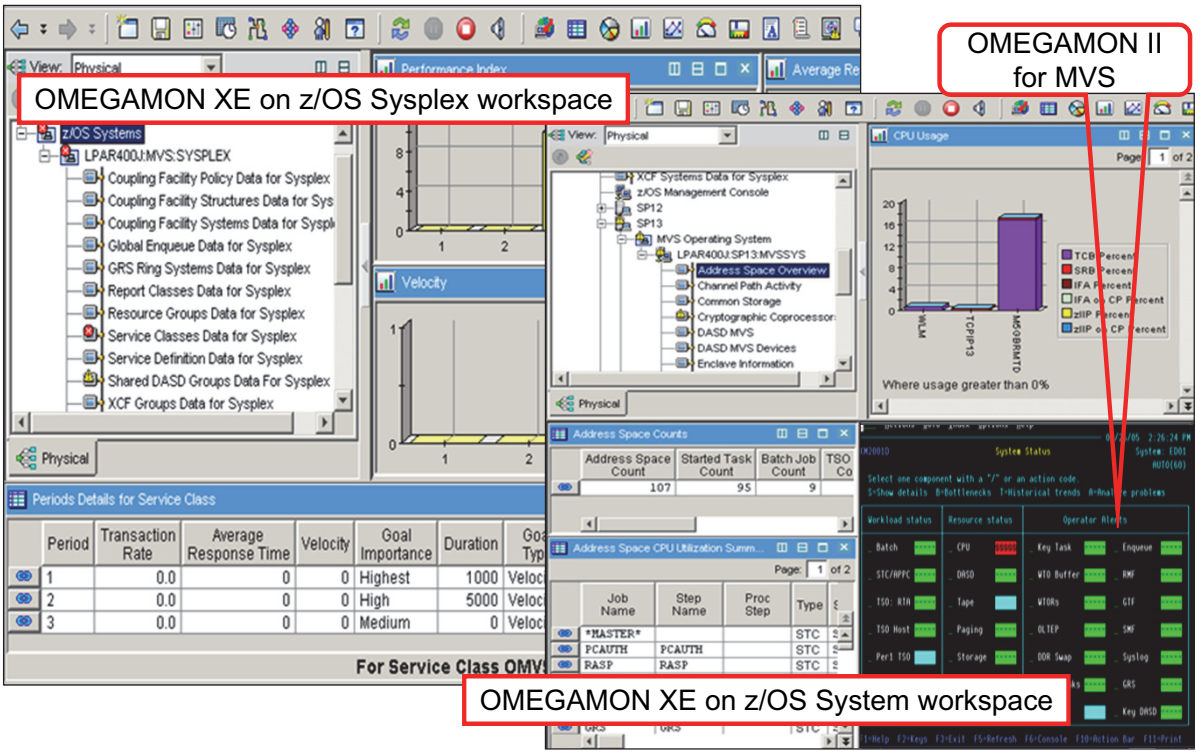
IBM Tivoli Composite Application Manager

The Tivoli Composite Application Manager (ITCAM) family helps optimize IT infrastructure performance and availability, helping you control hardware, software, and labor costs by tracking and improving server utilization. You can now seamlessly integrate tools to alert, identify, and isolate an incident with subject matter expert tools that diagnose and resolve problems. Configure the ideal solution to meet the needs of your organization.

ITCAM includes these products:

- ITCAM for Application Diagnostics
- ITCAM for Transactions
- ITCAM for SOA
- ITCAM for Applications
- ITCAM for MS Applications

OMEGAMON XE for z/OS

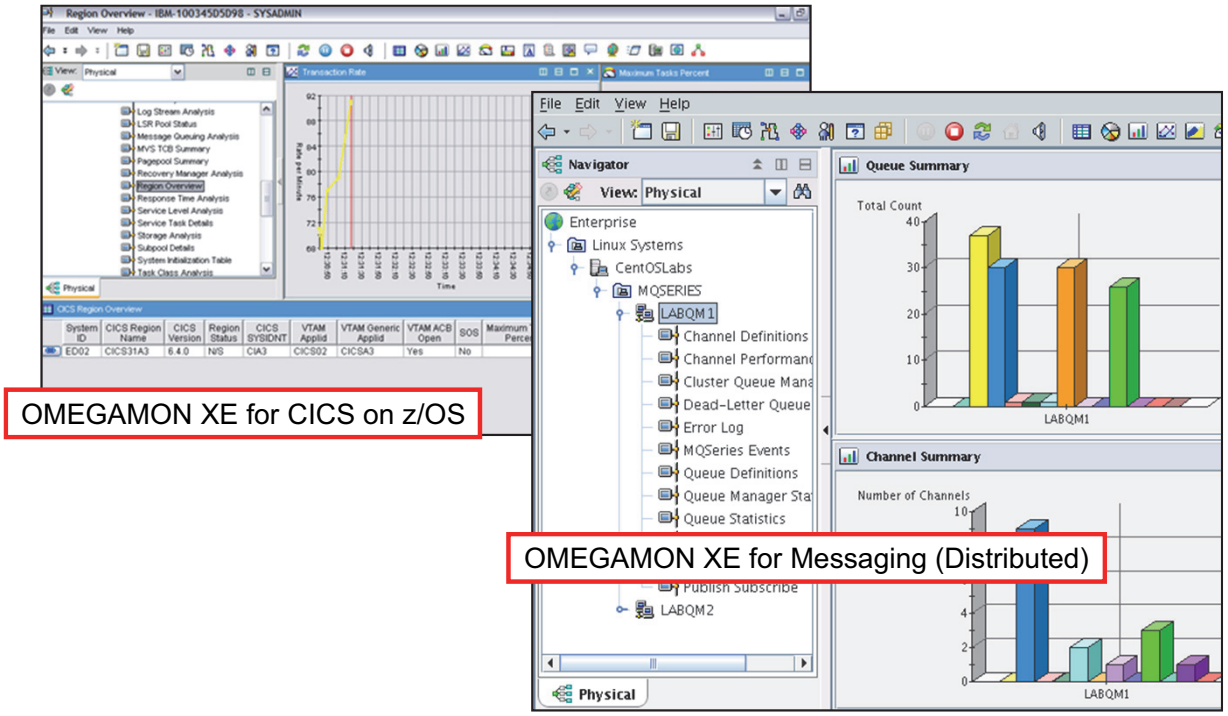


OMEGAMON XE for z/OS

OMEGAMON XE on z/OS monitoring agents provide extensive system-level performance and usage information. They also provide data on IBM cryptographic coprocessors that are installed in Series z servers and z/OS UNIX System Services.

OMEGAMON XE for z/OS provides three other user interfaces by using 3270 data stream: the Enhanced 3270 User Interface, OMEGAMON II for MVS, and OMEGAMON for MVS (classic).

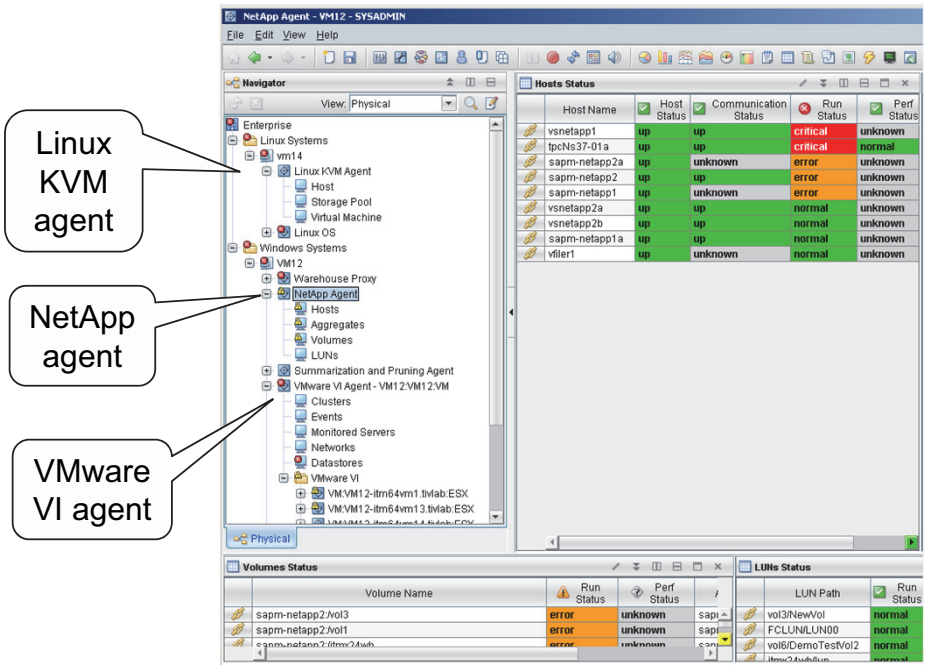
More OMEGAMON XE monitors



More OMEGAMON XE monitors

Many OMEGAMON XE monitors operate on z/OS, z/VM® and Linux on System z®, and distributed platforms. All of them use the portal client as their user interface, while some provide alternative, native interfaces.

SmartCloud Monitoring



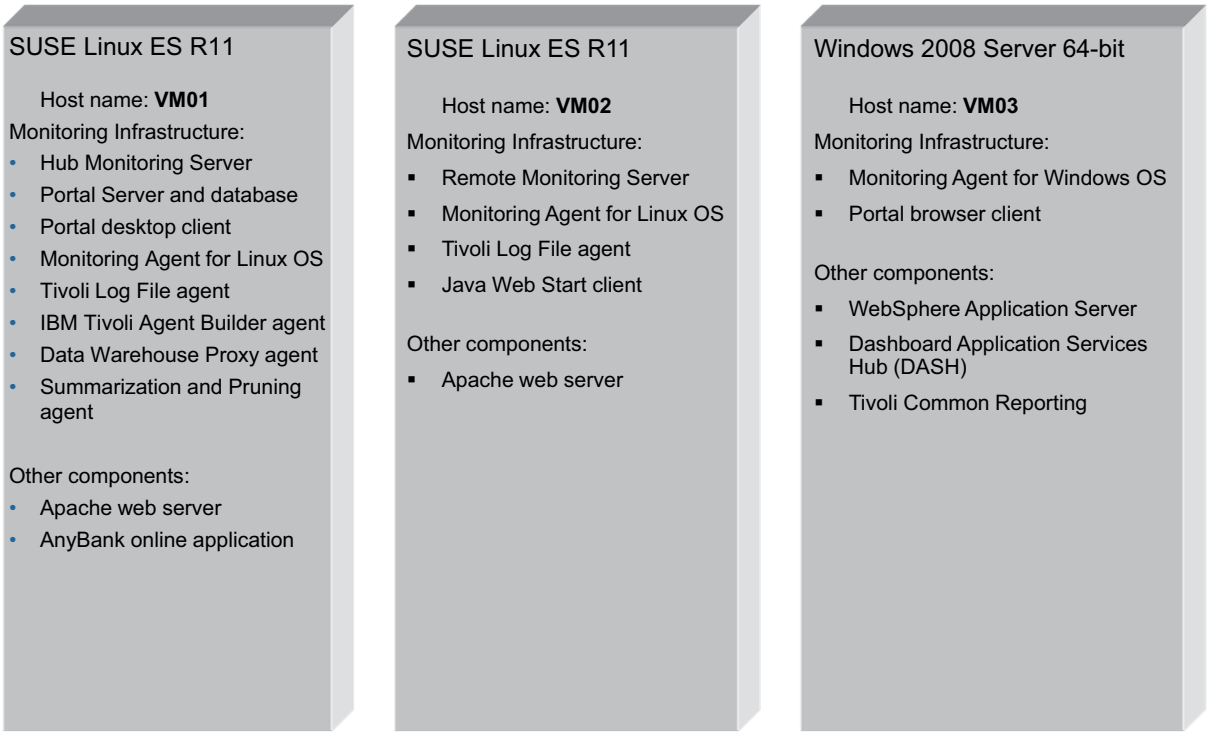
SmartCloud Monitoring

Also known as IBM Tivoli Monitoring for Virtual Environments, SmartCloud Monitoring monitors the health and performance of a private cloud infrastructure. It can track the availability of shared resources on the hosting server at the same time as it tracks the consumption of those resources by individual workloads. The monitoring solution contains these components:

- Cisco UCS agent
- Citrix XenApp agent, Citrix XenDesktop agent, Citrix XenServer agent
- Linux Kernel-based Virtual Machines agent
- NetApp Storage agent
- Network Devices agent
- VMware VI agent
- Capacity Planner for PowerVM, Capacity Planner for VMware
- Dashboard for VMware,
- Virtual Environments Performance and Capacity Management Reports

Lesson 4. Student exercise environment

Student exercise environment



What this lesson is about

This slide presents the systems that you have available during your exercises.

What you should be able to do

After completing this lesson, you should be able to describe the student exercise environment

The first Linux system has the host name VM01. It is the primary system, hosting these components:

- Tivoli Monitoring Services infrastructure components
- An Apache web server
- DB2 UDB for the portal server and the business data that later exercises use.

The second system is also a Linux system, with a host name of VM02, containing a remote monitoring server, two monitoring agents, and an Apache web server.

The third system runs the Windows 2008 Server 64-bit operating system. The host name is VM03. This server hosts a monitoring agent along with a WebSphere Application Server instance, which supports the Dashboard Application Services Hub (DASH) and Tivoli Common Reporting.

Student exercises

Student exercises

Open your *Student Exercises* book and perform the exercises for this unit.

Review questions

1. Which IBM Tivoli Monitoring component collects data from managed systems?
2. Which component is the collection and control point for the agents?
3. Which component provides the graphical user interface?

Review answers

1. Which IBM Tivoli Monitoring component collects data from managed systems?

   Tivoli Enterprise Monitoring Agents

2. Which component is the collection and control point for the agents?

   Tivoli Enterprise Monitoring Server

3. Which component provides the graphical user interface?

   Tivoli Enterprise Portal Client

Summary

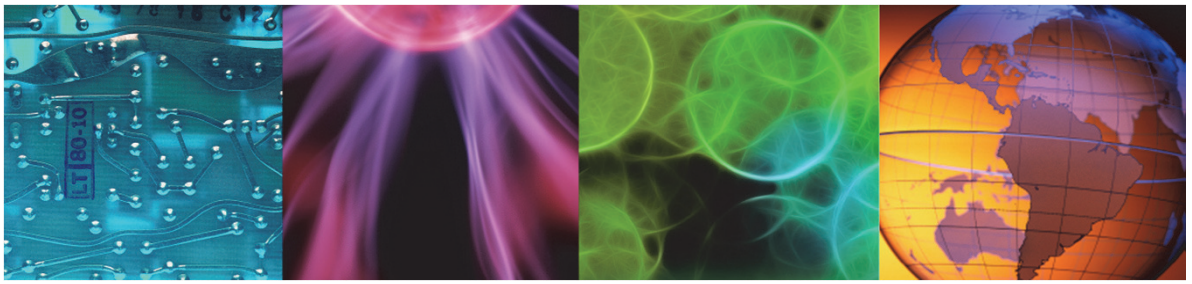
Now that you have completed this unit, you can perform the following tasks:

- Describe the purpose and positioning of IBM Tivoli Monitoring.
- List the architecture and components of an enterprise monitoring solution.
- Describe each component of IBM Tivoli Monitoring.
- Use the basic product terms of IBM Tivoli Monitoring.
- List some Tivoli monitoring products that use the Tivoli Enterprise Portal client as their user interface.

Summary

2 Using and navigating the Tivoli Enterprise Portal

2 Using and navigating the Tivoli Enterprise Portal



What this unit is about

This unit focuses on the components of your portal client application window and navigating the application. When talking about Tivoli Enterprise Portal and IBM Tivoli Monitoring, you must understand some of the basic terms and functions.

How you check your progress

You can check your progress in the following ways:

- Review questions
- Lab exercises

Objectives

When you complete this unit, you can perform the following tasks:

- Start the Tivoli Enterprise Portal client by using the desktop, web browser, and Java Web Start.
- Describe the components of the application window.
- Open and navigate the online help to find information that goes beyond this course.
- Describe the purpose and use of the Navigator views.
- Use different methods to navigate workspaces.

Objectives

Lesson 1. Starting the Tivoli Enterprise Portal client

Lesson 1: Starting the Tivoli Enterprise Portal client

Portal client types

- Desktop
- Browser
- Java Web Start

What this lesson is about

The three types of portal clients are desktop, browser, and Java web start. Functionally, they are all similar, but they differ in installation and startup.

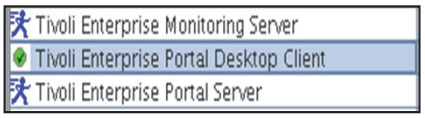
What you should be able to do

After completing this lesson, you should be able to perform the following tasks:

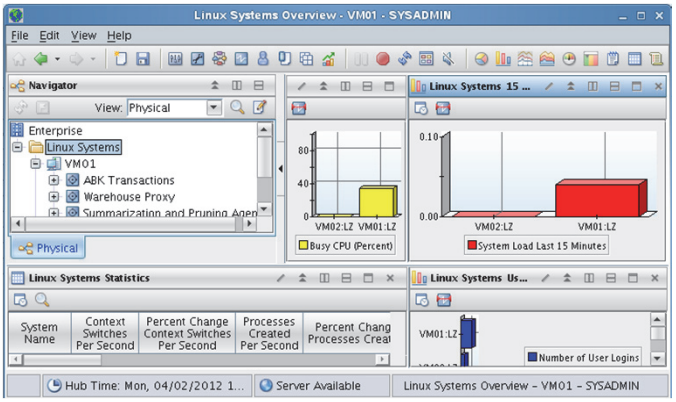
- Identify the different client types
- Start the portal client and log in
- Navigate the online help

Desktop client

- Installed on a workstation
- Typically done by an administrator
- Windows
  - Double-click the desktop client icon
  - Click **Start > All Programs > IBM Tivoli Monitoring > Tivoli Enterprise Portal**
- Linux
  - Manage Tivoli Enterprise Monitoring Services
    - Right-click or other action



  - Command line
    - **./itmcmd agent start cj**



Desktop Client:

✓ Best performance

✓ Better behaved with multiple Java runtime environments

✗ No central administration

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Desktop client

Each computer that runs a desktop client requires individual client installation locally. Software for each desktop portal client also requires separate and individual maintenance.

Refer to the product documentation for supported platforms.

Starting the desktop client

Start the desktop client the same way you do other locally installed applications. If you see the icon on your Windows desktop, start the client by double-clicking it.

On Windows workstations, you can verify whether the desktop client is installed by locating the **Tivoli Enterprise Portal** icon on your desktop. If it is not available, you can use the browser client.

Browser client

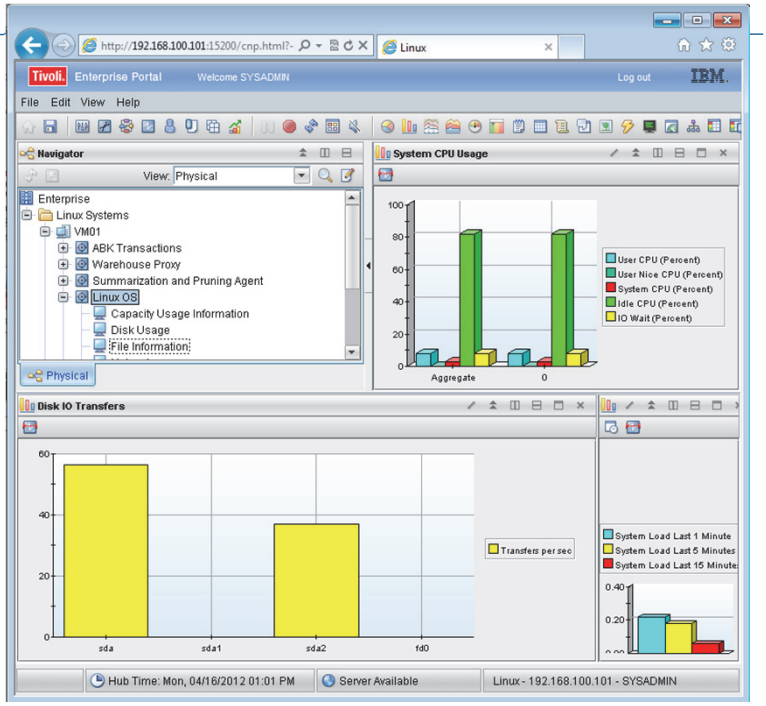
- Most common usage
- Runs in an Internet browser
  - Internet Explorer 8, 9, 10
  - Mozilla Firefox 10, 17

Browser client:

✓ Central administration

✓ Workspaces have URLs

✗ Initial download can be slow



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Browser client

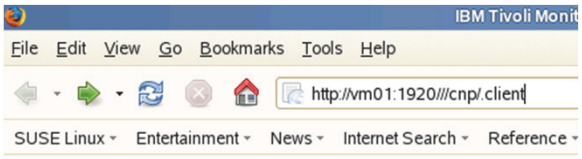
The browser client runs in Internet Explorer on Windows, and in Mozilla Firefox on Linux or UNIX. The main benefit of the browser client is that each user can install it, and the maintenance is automatic. An administrator does not have to install or maintain the client.

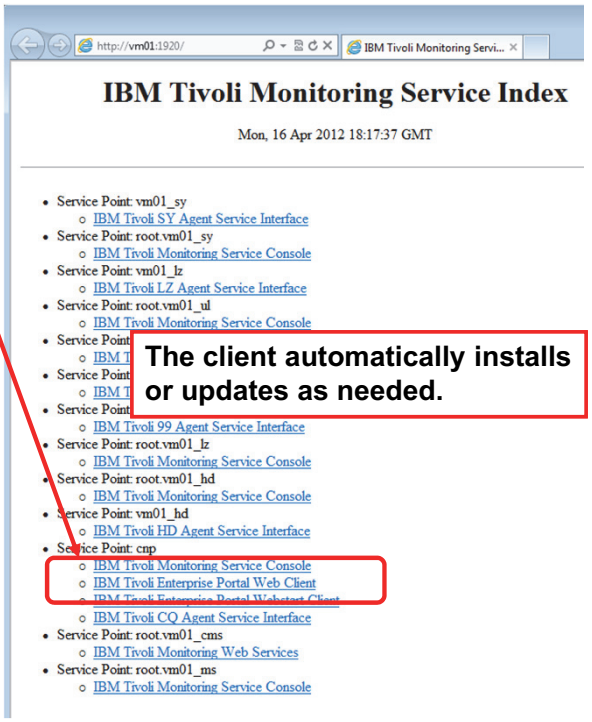
Tivoli Enterprise Portal Server has the browser client installation software. The first time you log in to the portal server with a browser, the server downloads the client software to your computer. Afterward, it downloads only software updates.

Starting the browser client

- Service Index:
  - **http://<*portal_server_hostname*>:1920** (The default access port is 1920.)
  - Click **IBM Tivoli Enterprise Portal Web Client**.
- Direct:

  http://<*portal_server_hostname*>:1920///cnp/client





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Starting the browser client

One way to start the browser client is to access the Service Index URL:

http://<*portal_server_hostname*>:1920

From this web page, click **IBM Tivoli Enterprise Portal Web Client**.

You can also enter the URL specifically for the browser client:

http://<*portal_server_hostname*>:1920///cnp/client

When entering the URL, type the host name or IP address of the portal server and the port number to connect to the portal client application. The default port number for HTTP traffic is 1920. It is the default port for accessing the portal server through the web portal client.

Note: Your administrator can change the port number. If you cannot access the application, check with the administrator who configured Tivoli Monitoring Services.

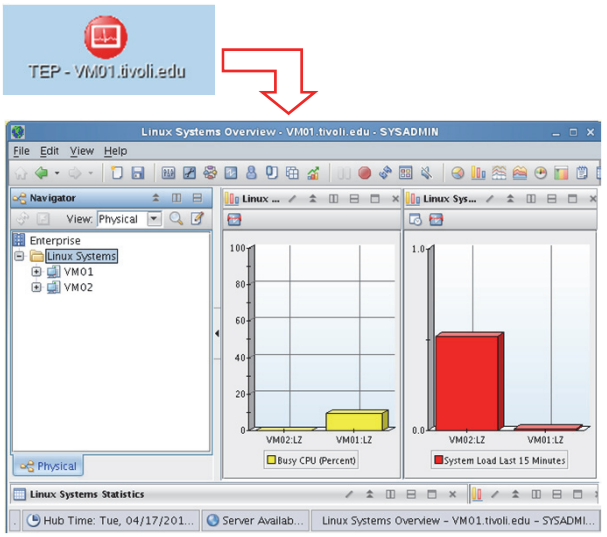
If your workstation does not yet have the client, the client automatically downloads to the workstation. If the maintenance level changed since you last accessed the portal client from your workstation, the files automatically update.

In this browser client, each portal workspace has a URL. You can save a workspace to your Favorites list or bookmarks.

Java Web Start

You can obtain a desktop client from the portal server through IBM Web Start for Java.

- Automatically configures with latest updates with each startup.
- No need to configure application support.



Java Web Start (JWS) Client:

- ✓ Desktop performance
- ✓ Central administration
- ✓ Support for multiple JREs
- ✓ Much faster initial download
- ✓ Broad platform coverage

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Java Web Start

The Java Web Start client combines the advantages of the desktop and browser clients. Like the browser client, you access the Java Web Start client software through a URL and download it from the portal server. Unlike the browser client, which always runs inside the browser, the Web Start client runs as a desktop application. Whenever updates to the client software are available, they download from the portal server automatically.

Starting the Java Web Start client

Windows

- Browser: **http://<*portal_server_hostname*>:1920///cnp/kdh/lib/tep.jnlp**
- Desktop icon

Linux

- Browser: **http://<*portal_server_hostname*>:1920///cnp/kdh/lib/tep.jnlp**
- Desktop icon, installed in **<*signed-on-user-home*>.gnome-desktop**, which you can copy to Desktop

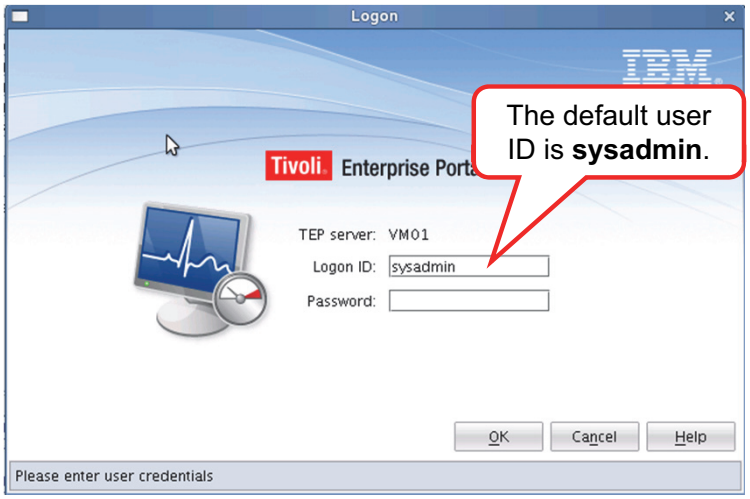
Starting the Java Web Start client

On the Windows desktop, the **Java Web Start** is an icon.

On Linux, the desktop icon is in the home directory of the logged-in user, in **.gnome-desktop**. You can copy the icon to the host desktop for convenience.

Logging in

- After you install and start the client, a login screen opens.
  - If the security feature requires it, you must type a password.
  - If security enabled, the hub monitoring or LDAP associates your user ID with the password.
  - If the hub monitoring server uses z/OS, the user ID is the user's TSO ID.



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Logging in

After you start the portal client, a window opens and prompts for a user ID and password. On Windows operating systems, the user ID and password are typically not case-sensitive. On Linux and UNIX operating systems, the user ID and password are case-sensitive.

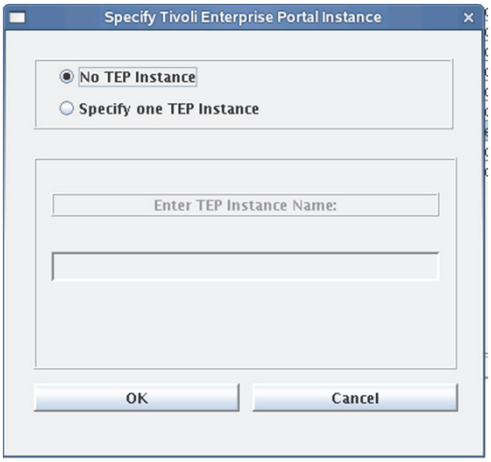
For first-time portal installation, the default user ID is sysadmin, already registered. This user ID is also the default portal client administrator and you can use it to create other users and administrators.

In most production installations, this user ID is disabled and other IDs are used. A security check is likely enabled, requiring a valid user ID and password login that the hub monitoring server operating system validates.

Starting the portal client on Linux

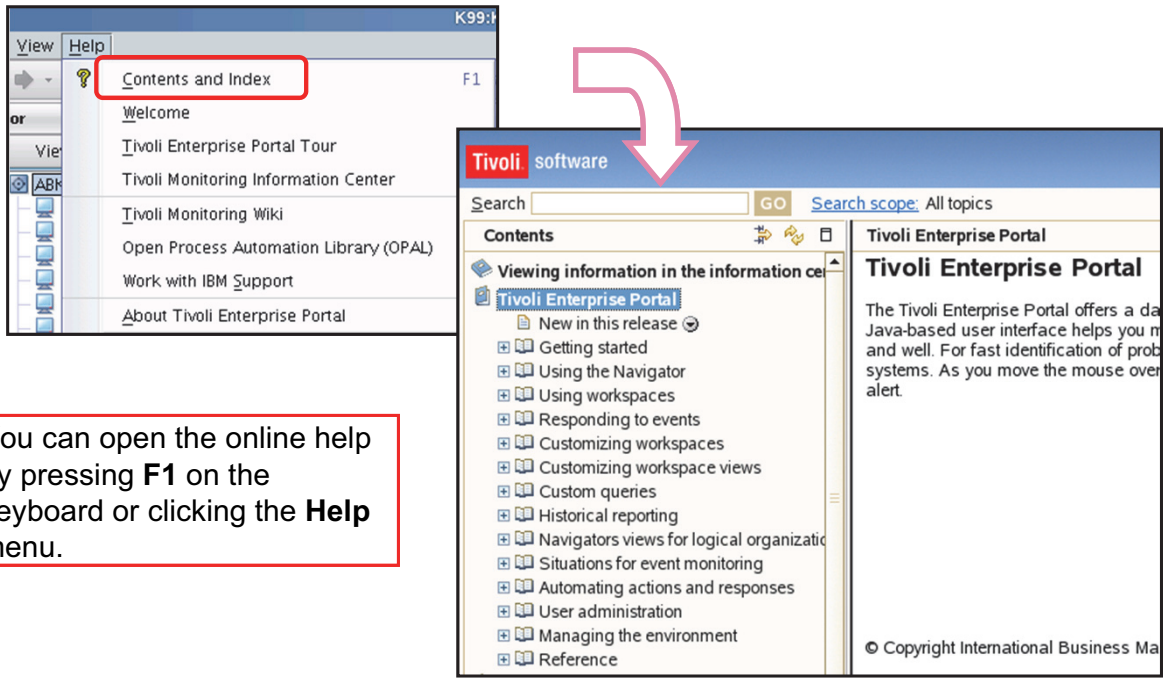
Linux supports multiple desktop portal clients that connect to different portal servers.

- If multiple instances are, click **Specify one TEP Instance**, type the instance name, and click **OK**.
- Otherwise, leave **No TEP Instance** selected and click **OK**.



Starting the portal client on Linux

Opening the online help



You can open the online help by pressing **F1** on the keyboard or clicking the **Help** menu.

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Opening the online help

For more information about Tivoli Monitoring, online help is available. You can open help through the portal client menu or by pressing the **F1** function key.

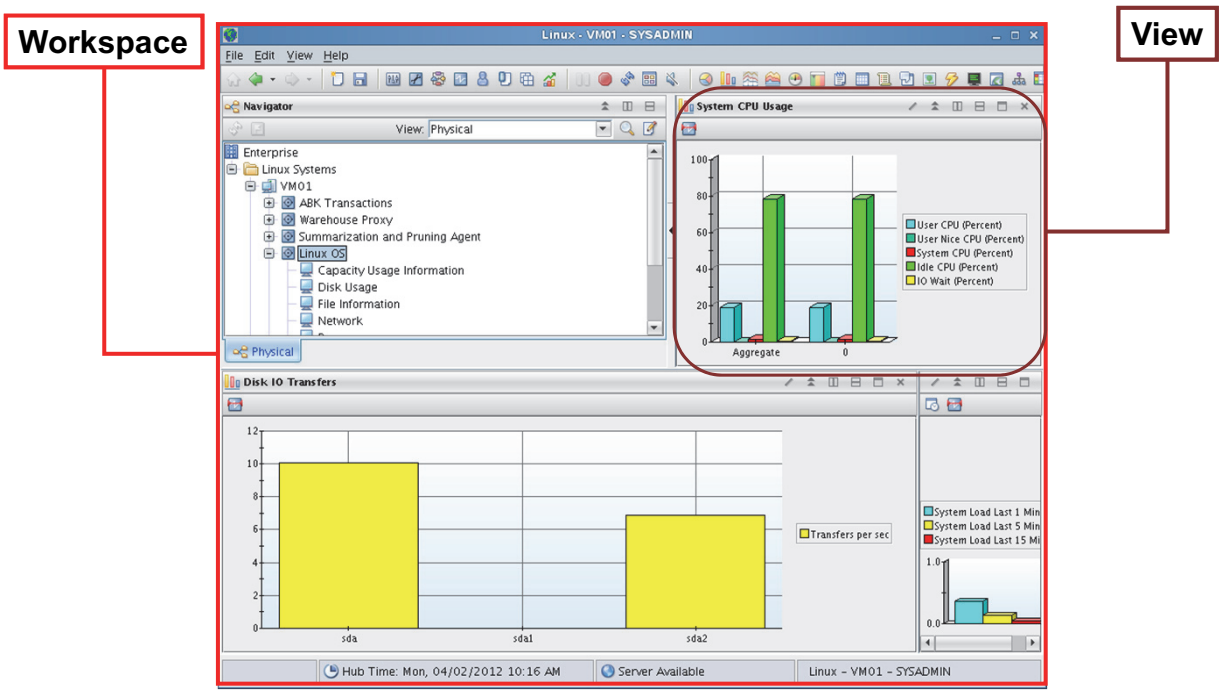
Note: When using the browser portal client in Windows, **F1** opens the help for Internet Explorer itself. You can also block online help as a pop-up window. The preferred way to open the online help when using the browser client is to go through the **Help** menu.

The online help is thorough and contains a description of all the course subjects. You can read more about certain functions, such as creating advanced links. The help describes and details all the functions and features, most are explained by use of examples.

Help is also a great way to get started on new releases. A section in each release describes what is new and what to consider when upgrading from previous releases.

Lesson 2. Components of the application window

Lesson 2: Components of the application window



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What this lesson is about

The portal client application window shows several panes. The main working area, called a ***workspace,*** contains ***views*** that show enterprise monitoring data.

What you should be able to do

After completing this lesson, you should be able to identify the menus and status areas of the client interface.

Workspaces and views

- The application window always shows a workspace. Views make up the workspace.
- Different types of views show enterprise monitoring data or provide access to other areas of interest.
- Each application, monitoring agent, comes with a set of predefined workspaces.
- You can customize workspaces and views to fit the interests or responsibilities of the users.

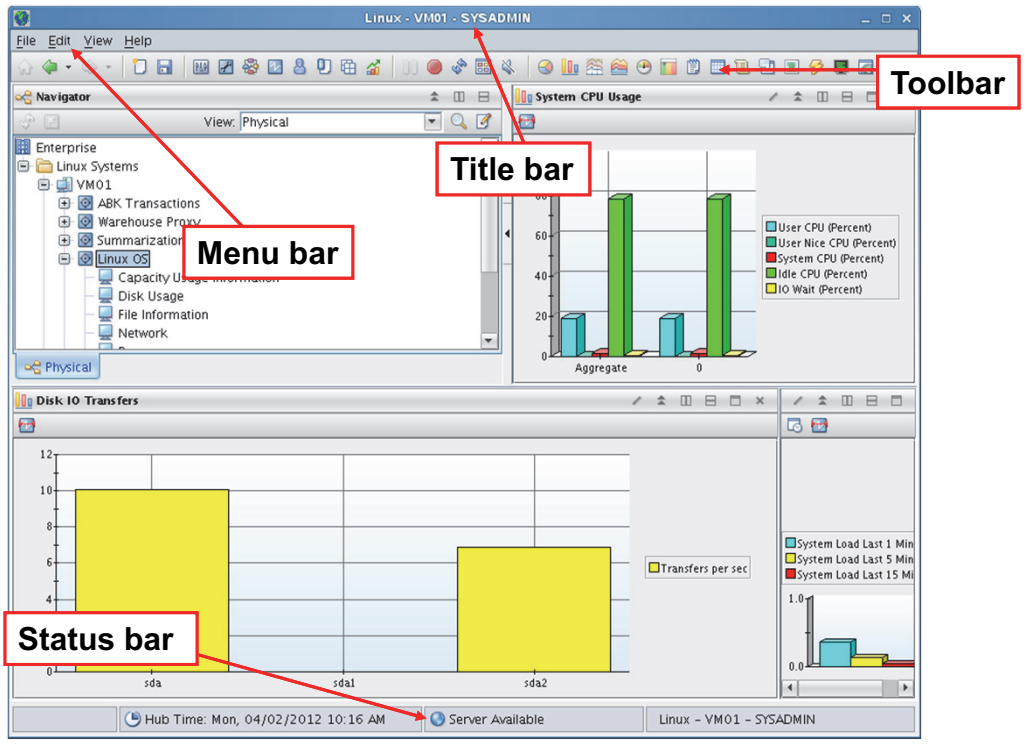
Workspaces and views

The focus of the portal client window is the workspace, which provides access to the collected enterprise data. Workspaces are split into panes, which are called ***views***. A view might be a table, graph, Notepad, web browser, 3270 terminal emulator, and so on. Views show data in a meaningful way.

Each workspace has a purpose and shows a specific set of data to monitor parts of a resource or provide an overview of all resource data. You can expand them to show business critical information, such as application overviews, service availability, or statistics by geography.

The available workspaces depend on the specific requirements of each enterprise monitoring solution and the needs of the users. Tivoli Monitoring administrators are the users who usually create workspaces.

Application window: Bars



Application window: Bars

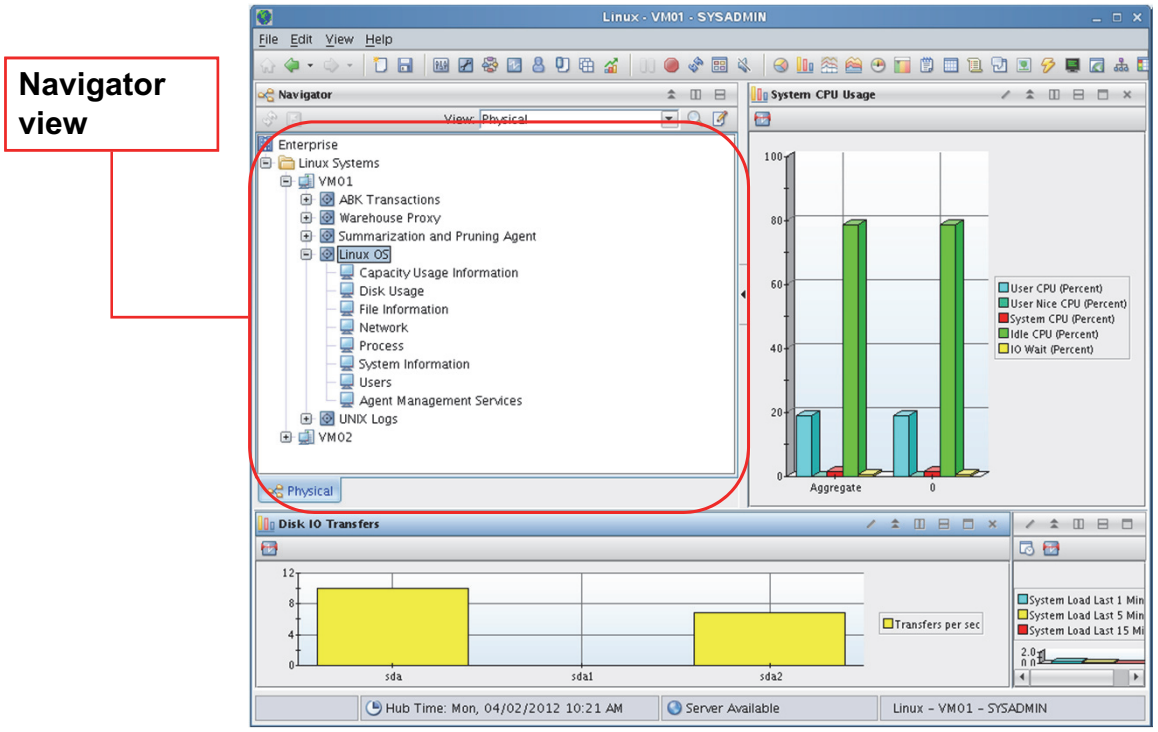
The application window consists of a title bar, toolbar, menu bar, status bar, Navigator Physical view, and a workspace.

- **Title bar:** The desktop client title bar shows the name of the workspace, the host name of the portal server, and the user name. An example is **System Information- VM01 - SYSADMIN**.
- **Menu bar:** The portal client has a menu bar with four menus:
  - The **File** menu has entries for opening a new portal client window, working with workspaces, and other generic options. Use the trace options only as instructed by IBM customer support.
  - The **Edit** menu has options for accessing the workspace properties, configuring for historical data collection, and accessing different editors.
  - The **View** menu has options for opening other workspaces for a Navigator item, and hiding or showing the toolbar and status bar. You can also refresh the data in the active workspace.
  - The **Help** menu opens the online help, provides access to a quick portal client tour, and lists information for users with different responsibilities and backgrounds.

- **Status bar:** The status bar has three sections, from left to right:
  - The date and time of the hub monitoring server
  - The status of the connection to the portal server and monitoring server
  - The workspace name, host name of the portal server, and user ID used to log on. This information is duplicate information from the window title bar, mainly for the browser client where the window title does not generate dynamically.

Lesson 3. Understanding Navigator views

Lesson 3: Understanding Navigator views



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What this lesson is about

This lesson introduces the components and operation of the Navigator views.

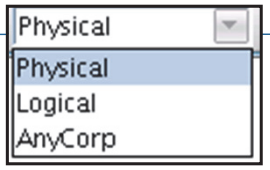
What you should be able to do

After completing this lesson, you should be able to perform the following tasks:

- Describe the parts of the Navigator views
- .Switch Navigator views
- Process Navigator view updates

Use the Navigator view, which is in the upper left of the application window, to navigate the workspaces within the portal client. You can show the Navigator view or hide it from the workspace.

Navigator view types



- The Navigator view is part of the application window, which is in the upper left corner.
- You can hide it from the client display by toggling **View > Show Navigator**.
- Navigator views contain Navigator items to structure your enterprise resources.
- The application provides two Navigator views:
  - The Navigator Physical view to group all monitored resources
  - The Navigator Logical view to act as the first customizable Navigator
- Administrators can create more Navigator views.
- Navigator views can structure your enterprise information in different logical ways to address your monitoring needs.

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Navigator view types

The main purpose of Navigator views is defining the structure of your enterprise resources and defining the information that is accessible to users. Tivoli Monitoring comes with a default Navigator view called the Navigator Physical view. Before you try to navigate your portal client, you must understand Navigator views and Navigator items.

You can add Navigators as needed if you have the required permissions to do so. Because Navigators are available for all enterprise users, a few administrators typically control this function.

Examples for more Navigator views are as follows:

- Enterprise overview: executive, or application dashboards
- Application view: Internet, SAP R/3, or PeopleSoft®
- Systems view: z/OS, Windows, Oracle, or DB2
- Geographical view: world, country, or state
- Operational view: storage, or security

Navigator items

- A Navigator view contains Navigator items that build the different levels in its hierarchy.
- Each Navigator item contains one or more workspaces that provide information relevant to that level of the Navigator.
- Use Navigator items to
  - Access workspaces and navigate the portal.
  - Show situation events, which can indicate problems that require attention.

Navigator items

The different levels of a Navigator structure are ***Navigator items***. Navigator items contain one or more workspaces that present information based on the level they represent in the Navigator view.

Use the enterprise level to provide an overview of all operating platforms within the enterprise, such as the following items:

- Current situation events
- Situations that opened within the last 24 hours
- Status of agents, offline or online

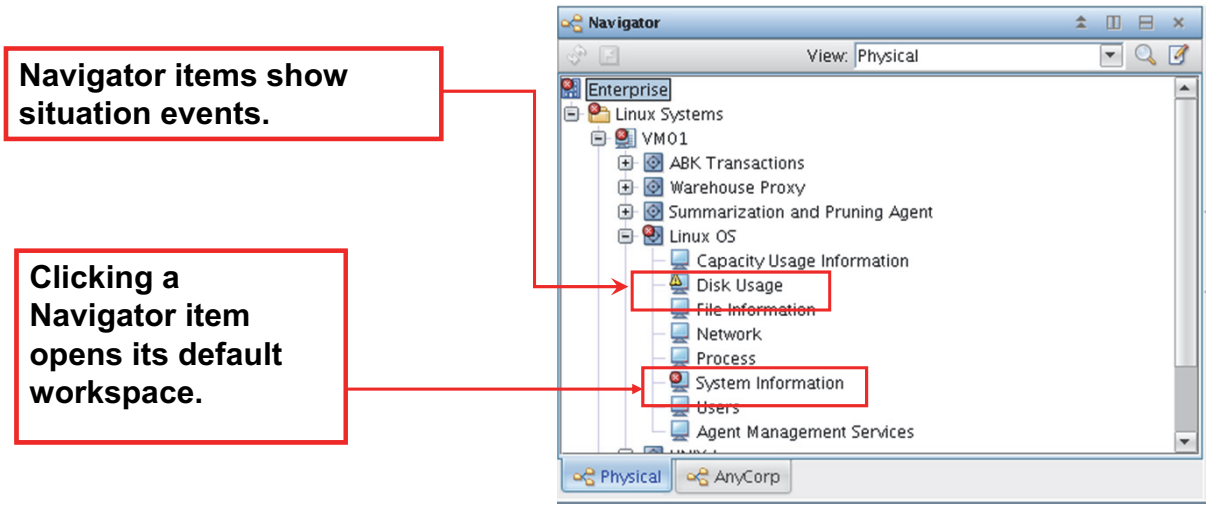
The Navigator Physical view provides those examples.

At the operating platform level, you can show information from all systems or critical applications. At the application level, you can show a workspace that provides a summary of important information that relates to the performance, availability, or function of applications.

You can include business data in your workspaces by including data from ODBC data sources. Doing so requires that you create custom queries, or use IBM Tivoli Agent Builder agents to include custom data as attributes.

Using Navigator items

You can access different levels in the Navigator hierarchy by expanding or collapsing the Navigator.



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Using Navigator items

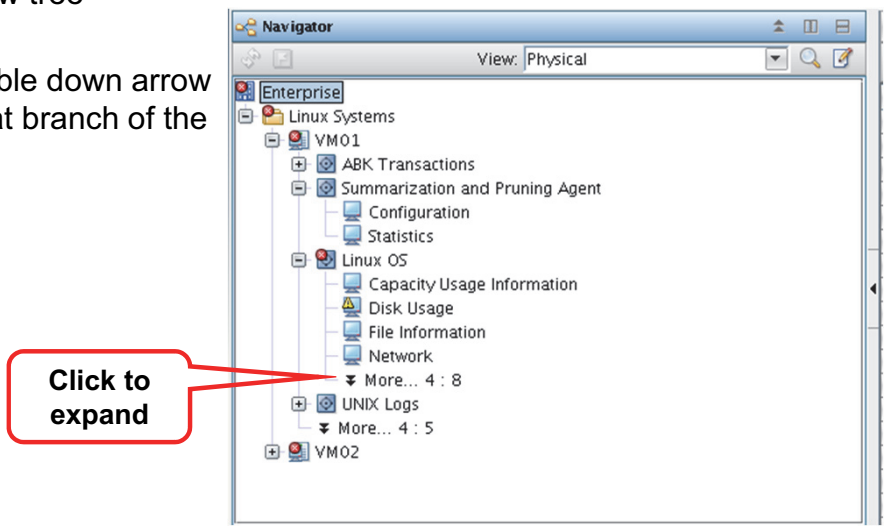
Use Navigator items to navigate your available enterprise information or, more specifically, your workspaces. You can perform the following functions:

- Expand or collapse Navigator segments.
- Select items to access default workspaces.
- Use a right-click menu to access other workspaces and functions.

Another purpose of Navigator items is showing situation events, for which the main focus of this section is viewing and managing the situations.

The More indicator

- **More** indicators keep the Navigator view tree compact.
- Click the double down arrow to expand that branch of the tree.



The More indicator

The **More** icon shows when a subtree has 26 or more Navigator items. Right-click the Navigator item to access the **Expand** or **Expand all** options.

Number of displayed Navigator items

To change the number of visible Navigator items, update the script that starts the Tivoli Enterprise Portal.

- -Dcnp.navigator.branch.pagesize=x where x is the number of items to fetch on a Navigator branch expansion request. The default value is 25.
- On Windows, update this script:
  - ITM_HOME\CNP\cnp.bat (or cnp_instance_name.bat)
  - For example: C:\IBM\ITM\CNP\cnp.bat
- On Linux, update this script:
  - ITM_HOME/OS_Specific_Directory/cj/bin/cnp.sh (or cnp_instance_name.sh)
  - For example: /opt/IBM/ITM/li6243/cj/bin/cnp.sh
- Here is the line that you update in the cnp.sh or cnp.bat script:
  - ${TEP_JAVA_HOME}/bin/java -Xms64m -Xmx256m -showversion -noverify -classpath ${CPATH} -Dkjr.trace.mode=LOCAL -Dkjr.trace.file=/opt/IBM/ITM/logs/kcjras1.log -Dkjr.trace.params=ERROR -Dibm.stream.nio=true -DORBtcpNoDelay=true -Dcnp.http.url.host=VM01 -Dkjr.browser.default=/usr/bin/firefox -Dybroker.agent.enableLocator=false -Dhttp.proxyHost= -Dhttp.proxyPort= -**Dcnp.navigator.branch.pagesize=4** candle.fw.pres.CMWApplet $1 $2 $3 $4 $5 $6 $7 $8 $9 $10 2>&1 1>> ${LOGFILENAME}.log

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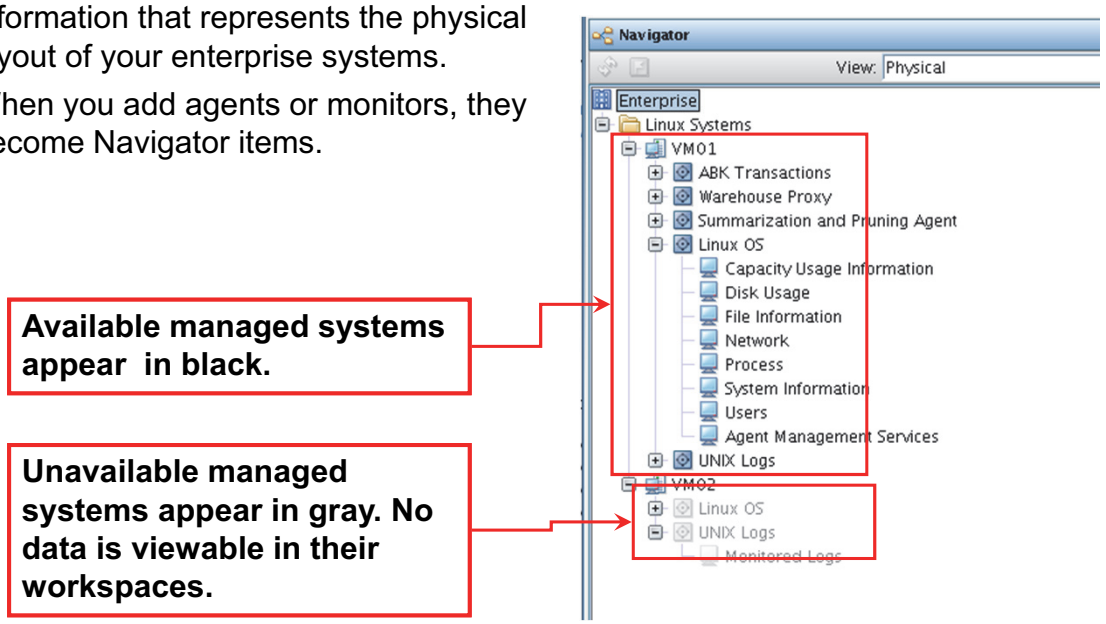
Number of displayed Navigator items

The default Navigator view is the Navigator Physical view.

When you add agents for individual resources and point them to their monitoring server, the application automatically adds Navigator items. After the agents connect successfully to that monitoring server, the application adds a predefined set of Navigator items for that resource in the Navigator Physical view. To keep large installations manageable, hide Navigator items that you are not working with.

Navigator Physical view

- The Navigator Physical view shows information that represents the physical layout of your enterprise systems.
- When you add agents or monitors, they become Navigator items.



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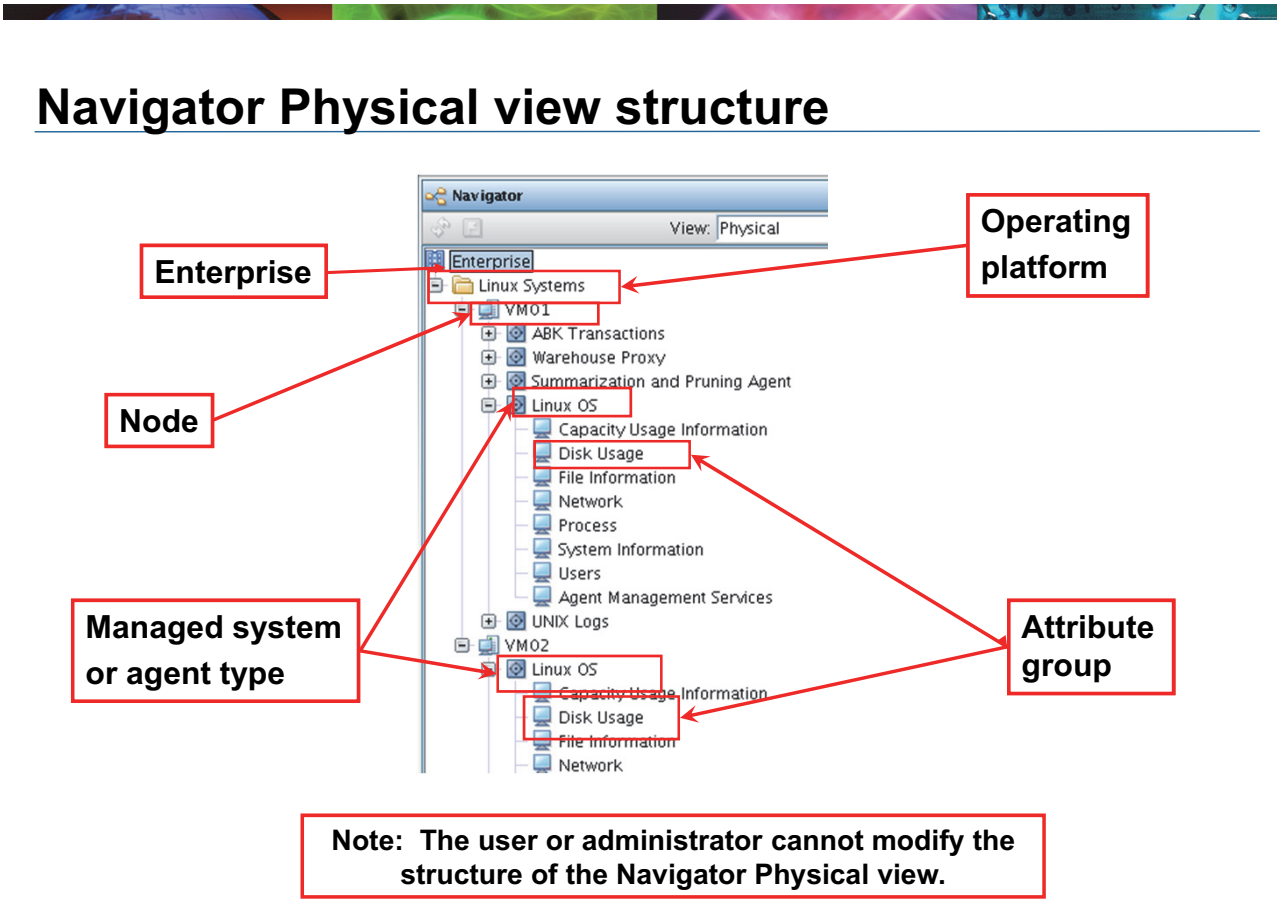
Navigator Physical view

After an initial installation, the Navigator Physical view is the only one that contains meaningful workspaces and views. The application design defines what workspaces are available and what views they contain. Although you can modify the workspaces and add new ones, you cannot modify the Navigator Physical view. Whenever a new monitoring agent connects to its monitoring server, the Navigator Physical view adds Navigator items.

As with other Navigator views, an administrator can authorize you to see or not see specific levels or specific systems in the enterprise. This setting is called ***affinity***, a term that specifies the managed system type a user has access to.

When a managed system goes offline, the items for that managed system in the Navigator Physical view change from black to gray. This condition indicates that data cannot be collected for that particular resource.



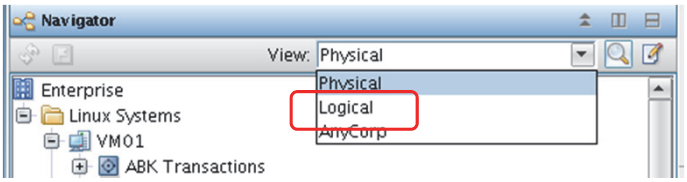
Navigator Physical view structure

A more detailed way of looking at the Navigator Physical view is breaking down its levels:

- **Enterprise** provides an overview of all agents that are installed in an enterprise.
- **Operating platform** contains information about all data that is gathered for a specific type of operating system.
- **Node** is the name of the computer or z/OS image where monitoring agents are installed.
- **Agent** is the monitoring agent that is installed on the node.
- **Subagents** add another level to the tree. Products such as WebSphere MQ and SAP R/3 have subagents. Many do not have this level in the tree.
- **Attribute group** defines the category of attributes the agent is monitoring, for example, disk capacity, DB2 buffer pool, and network.

Custom Navigator views

- Authorized users create them using the Navigator editor.
- Each view gathers a unique set of monitored systems, such as an application, service, department, or location.
- Each view can be new or shared:
  - If workspaces are for a new Navigator, you must create the items.
  - If workspaces are for sharing, Navigator items are also shared.
- Navigator Logical view: A product-provided blank custom view



Custom Navigator views

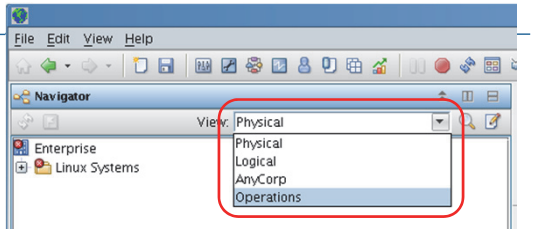
Authorized portal client users can create custom Navigator views. In contrast to the Navigator Physical view, you can add, modify, and delete custom Navigator views. Custom Navigator views are created for many reasons, but typically they gather a unique subset of monitored systems to meet a monitoring need. For example, you might create a custom view with only the managed systems that relate to a specific application, service, department, or location.

New Navigator views contain no structure except a single item, representing the highest level of the custom Navigator view. You must place Navigator items into a new Navigator view. You can create new items or share them from other Navigators, such as the Physical view. For new Navigator items, you must also create meaningful workspaces. Shared Navigator items have the same workspaces in any Navigator view.

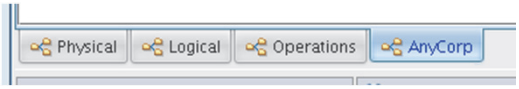
An editor enables you to add, modify, and delete custom Navigators. By default, Tivoli Monitoring provides one blank custom Navigator view: the Logical view.

Note: This course covers creating Navigator views and adding Navigator items later.

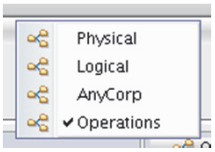
Switching Navigator views



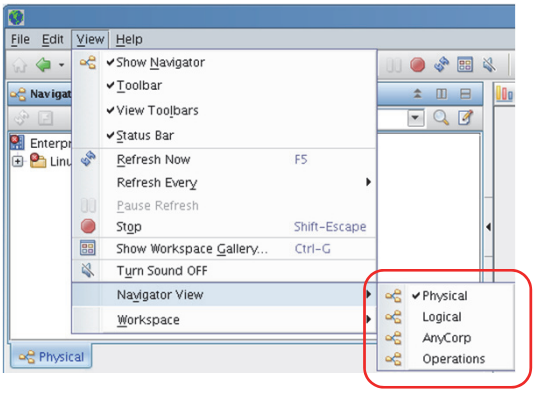
- Click the **View** arrow menu.
- Opened Navigator views display tabs below the Navigator view to provide easy access.



- When you collapse the navigator, a window in the lower right corner of the workspace shows the current Navigator view. Clicking the current Navigator view shows a list of all available Navigator views.



- Click **View** > **Navigator View.**



Switching Navigator views

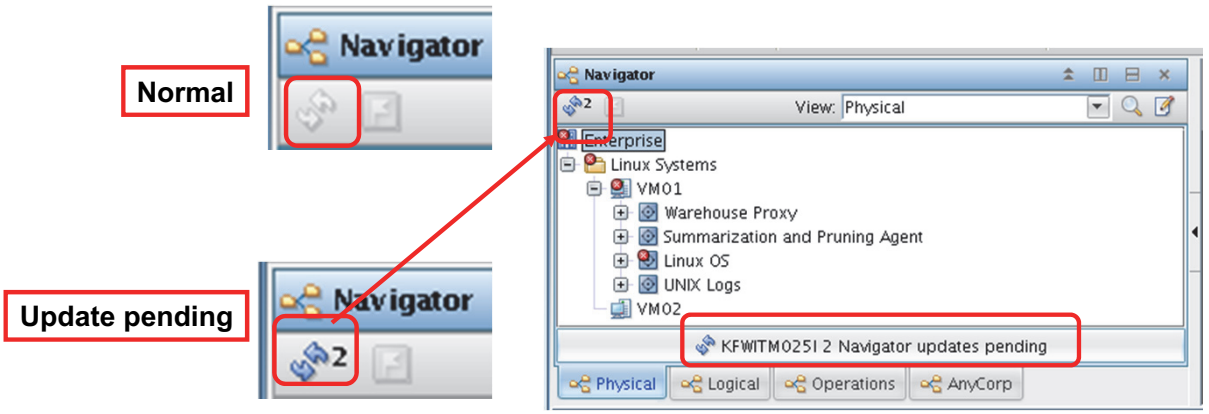
If multiple Navigator views are available and your user ID is authorized for them, you can open those Navigator views one of the following ways:

- Click the **View** drop-down menu in the upper right of the Navigator view.
- Click **View > Navigator View** from the main menu.
- Right-click the **Restore Navigator** button on the lower right of the workspace when the Navigator view is collapsed.

When you select a Navigator view, it is shown with a tab added to the bottom of the Navigator view. From this tab, you can quickly switch between previously opened Navigator views if you keep the current portal client session open.

Navigator updates

- Navigator view changes do not automatically update.
- At either the Navigator update icon or message, click to apply updates.
- The number of pending updates is beside the icon.



Navigator updates

The Navigator view does not update automatically while you work with it, even when new Navigator items become available. Updating occurs when new agents come online, or when an administrator changes the custom Navigator view you are currently working with.

When new updates are available, the update symbol in the upper left corner of your Navigator view turns blue. To apply updates to the Navigator view you are currently working with, click this symbol.

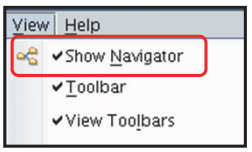
A blue button also shows on the bottom of the Navigator view, showing how many updates are pending.

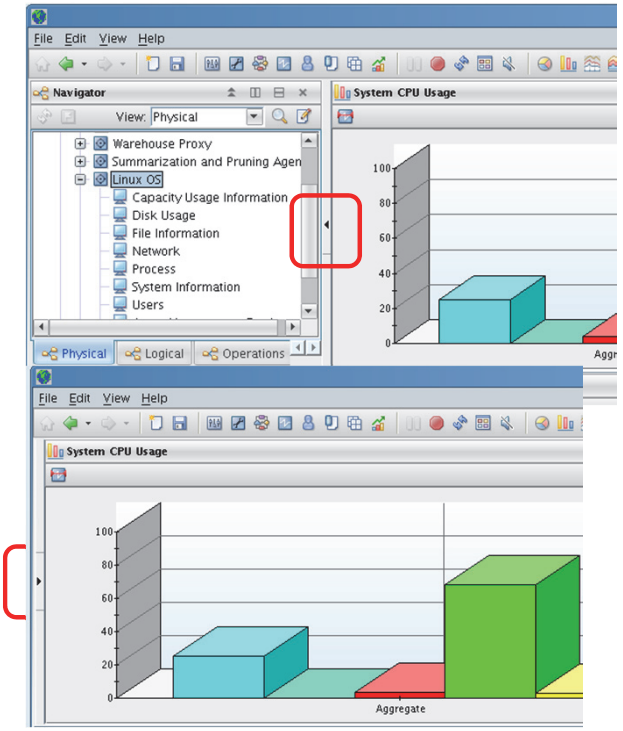
Collapsing and expanding Navigator views

- Collapse the Navigator to give more workspace to the views.
- To collapse:
  - Click the **Collapse** button.

  or
  - Clear **View > Show Navigator**.
- To expand:
  - Click the **Expand** button.

  or
  - Select **View > Show Navigator**.





Collapsing and expanding Navigator views

You can hide (collapse) the Navigator view, obtaining more workspace for the views.

Lesson 4. Navigating workspaces

Lesson 4: Navigating workspaces

Navigating the portal client: Concept and options

- Navigating the portal means navigating workspaces.
- Most workspaces associate with a Navigator item.
- The easiest way to open a workspace it to click its associated Navigator item.

Options to open a workspace are:

- Clicking the default workspace.
- Clicking other workspaces available on a Navigator item.
- Clicking a workspace through links:
  - From a Navigator item
  - From within views
- Pasting the workspace URL into a browser.

Navigating the portal client: Concept and options

What this lesson is about

You learned earlier that workspaces are saved with Navigator items. You can open them by clicking the Navigator item where they are available. Clicking the Navigator item is the most common way of opening a workspace. Open any secondary workspaces by right-clicking the Navigator item.

What you should be able to do

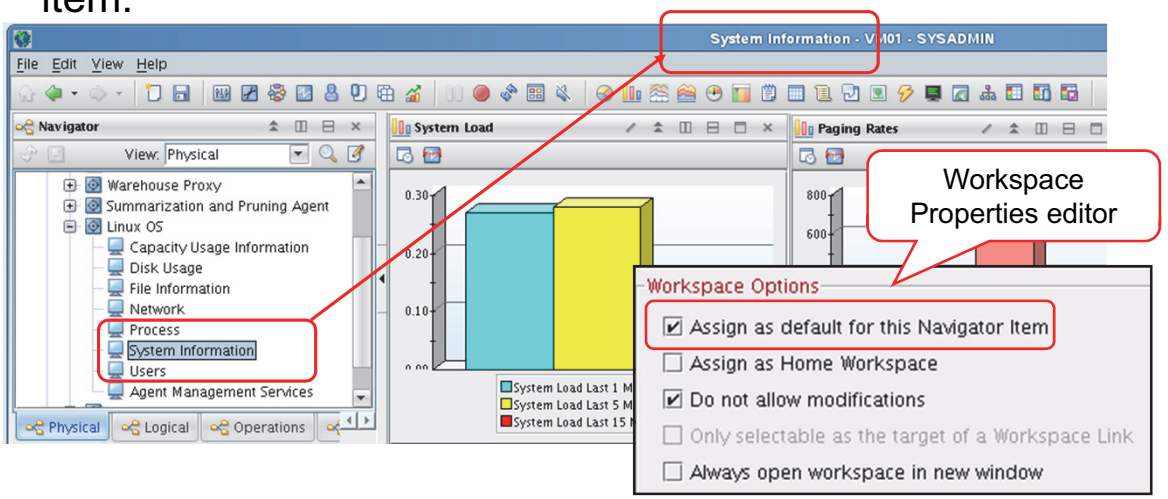
After completing this lesson, you should be able to perform the following tasks:

- Access default and non-default workspaces.
- Search for Navigator items
- Refresh workspaces to obtain current data

Not all workspaces are accessible from Navigator items. Some workspaces are available only through links. Links enable you to navigate quickly to other workspaces without needing to know exactly where they are in the Navigator. A link might even point to a workspace in a different Navigator. Links are available from different points in a workspace, such as Navigator items, graphic view icons, table view rows, bar charts, and pie charts.

Opening a default workspace

Open the default workspace by clicking a Navigator item.

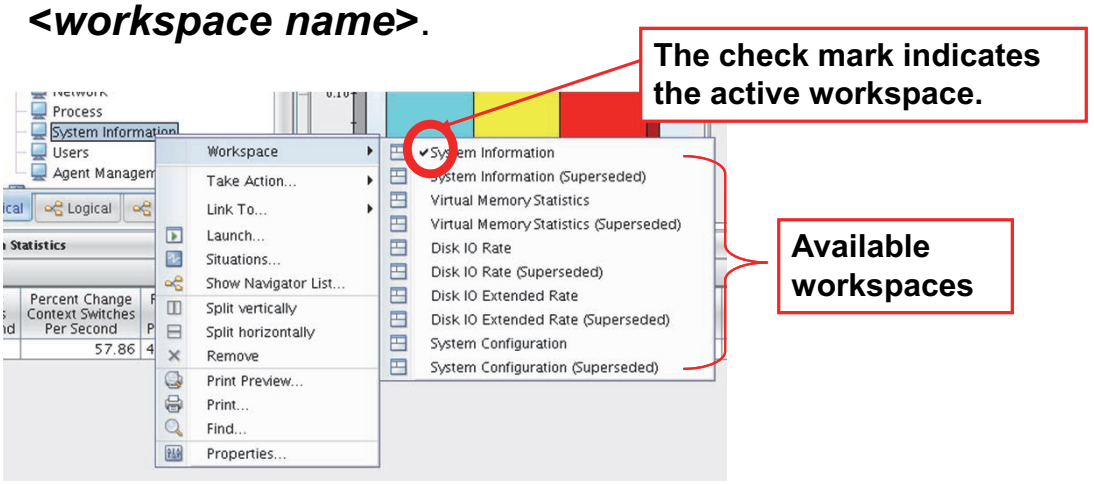


Opening a default workspace

You can open the default workspace for a Navigator item by selecting it with a single left click of your mouse. You can make any workspace available as the default of a Navigator item in the workspace properties. This default and all other workspace settings are modifiable for only your user ID and do not affect other users.

Opening other workspaces

Open workspaces other than the default from a Navigator item by right-clicking and clicking **Workspace > <*workspace name*>**.



Opening other workspaces

A Navigator item can contain multiple workspaces, which are available from a right-click menu on the item. You can make any workspace available as the default of a Navigator item in the workspace properties. This default and all other workspace settings are modifiable for only your user ID and do not affect other users.

Note: Before you can access a secondary workspace, you must access the default workspace for that particular Navigator item.

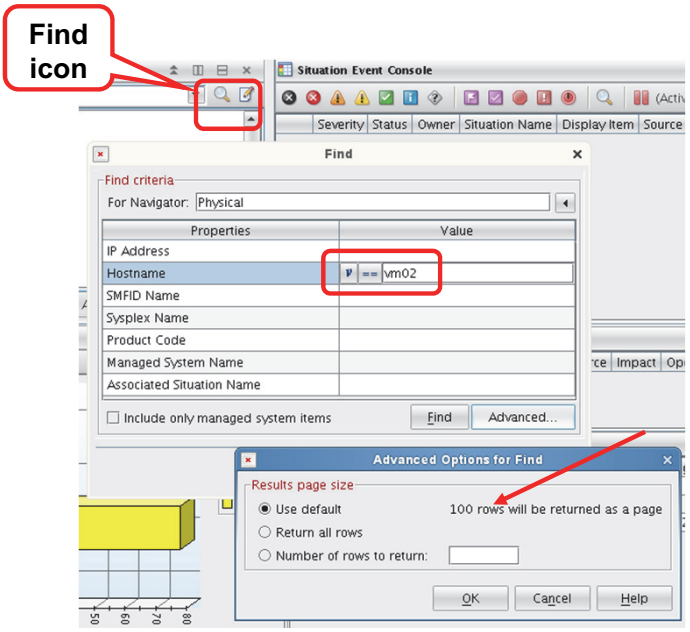
If a workspace shows Superseded following its name, the workspace contains references to 32-bit versions of numeric attributes with 64-bit equivalent attributes available.

- Workspaces that have a superseded version that shows queries with a signed 32-bit maximum value (2,147,483,647)
- Workspaces that have a version with the same name, without “superseded”, that shows queries that support values up to a signed 64-bit maximum value (9,223,372,036,854,775,807)

You also see similar superseded notations for attribute groups, attributes, and situations that have a 64-bit counterpart.

Finding Navigator items

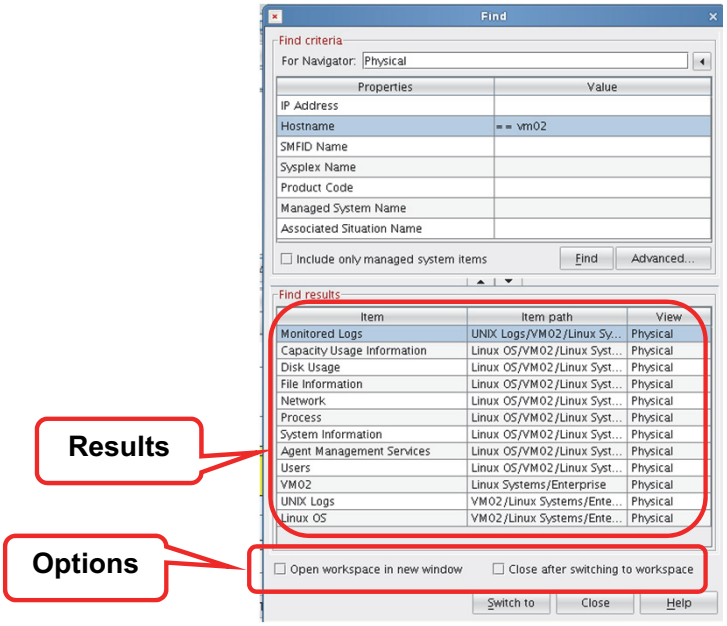
Search for Navigator items by host name, IP address, product code, and more.



Finding Navigator items

The Navigator **Find** function can help you find Navigator views of interest. Click the **Find** icon to open the window as shown here. Type strings or numeric values to qualify the search. You can adjust the number of rows that it returns by clicking the **Advanced** button.

Locating Navigator items: Results

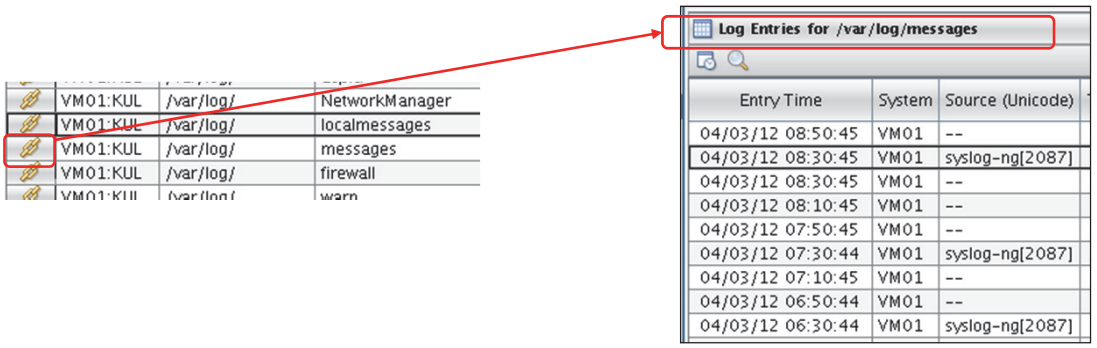


Locating Navigator items: Results

The **Find results** window lists all Navigator items that match the search criteria. Use the provided options to open the workspace in a new window without leaving the Find operation. The Find window can remain open even after you return to the workspace.

Linking to workspaces

- Quick navigation from one workspace to another
  - Assigned to another Navigator item
  - Not assigned to any Navigator item
- Data, a key value, passed from the current workspace to identify the target workspace



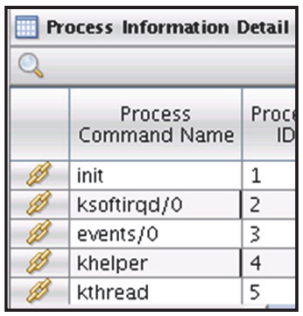
Linking to workspaces

Links are a way of navigating to workspaces in the portal client interface. Most links are simple links, comparable to shortcuts from navigating websites. Use links to move to workspaces that are assigned to other Navigator items or to workspaces that are not assigned to any Navigator item.

Finding workspaces that show more details than what your current workspace view shows can be challenging, especially in large enterprises. Click links to open windows with more details from the current view. For example, if you select the link next to a log file in the Windows System workspace, you open the Event Log workspace for that log file.

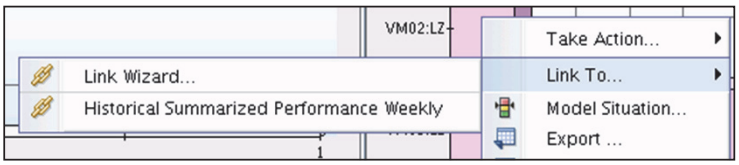
Link locations

Icon in a table



Link To menu

Object in a chart view: bar, pie, plot



Icon in a graphic view

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Link locations

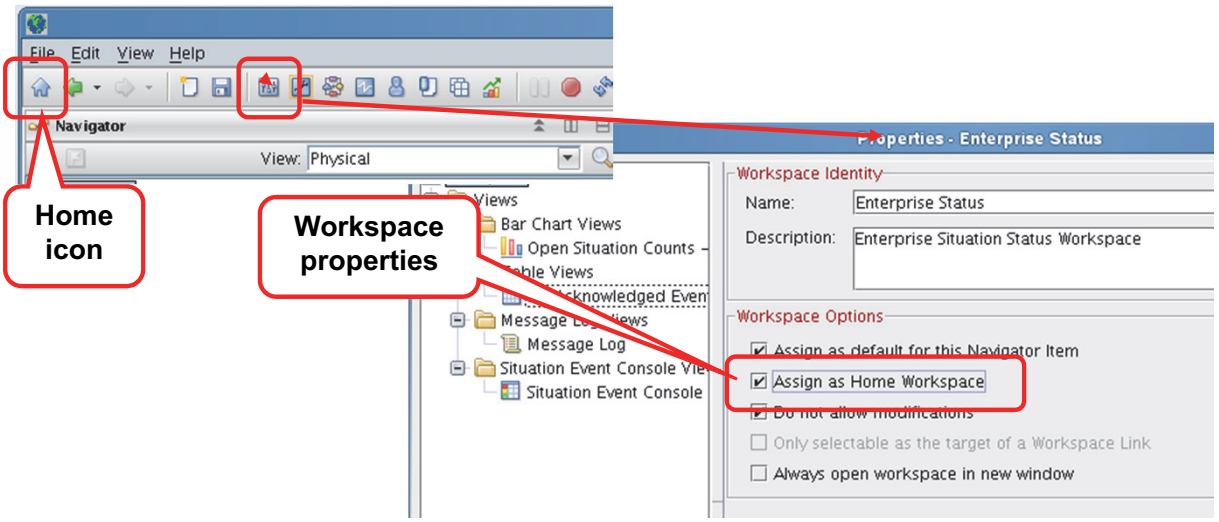
This slide shows the various ways to use links. The first link is for a table view and is available from every table row. Those links are often defined as advanced links, which pass values to the target workspace to filter or modify information shown in the view. Some product-provided workspaces contain this type of link. You can create links for bars in bar charts or pie segments in pie charts. They function similarly to the ones in tables.

You can assign a link directly to a target workspace so you do not have to right-click and select from available targets. You can also add links to Navigator items, just like workspaces. To select one, right-click the item, and click **Link To**. No product-provided links are available from Navigator items.

The last view link origin is a graphic view icon. With graphic views, you can position Navigator items on a graphical background. Objects on graphic views are just Navigator items you position on the graphic view canvas. You can create links to other workspaces and to show situation events, which you learn about later in this course.

Setting and opening a home workspace

- Sets a workspace as Home, like a browser home page.
- Set in Workspace **Properties**.



Setting and opening a home workspace

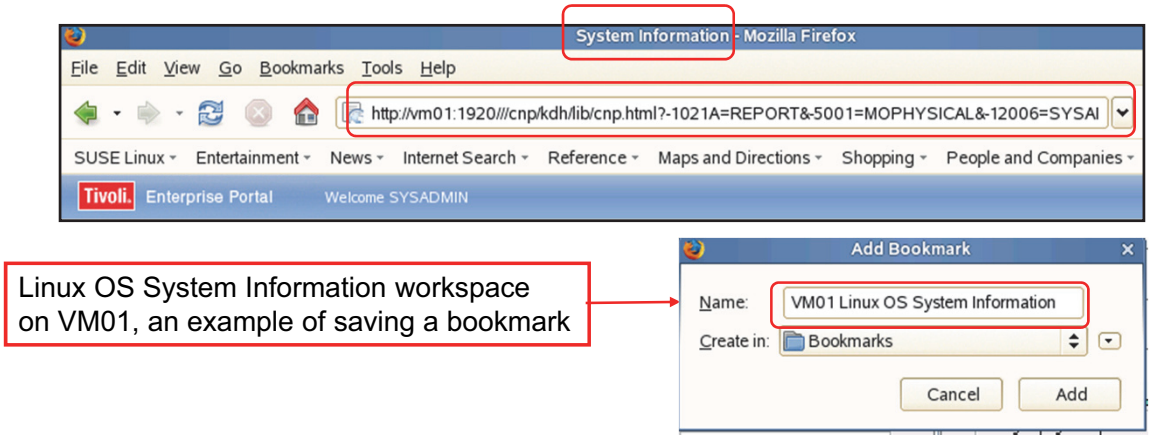
Initially, Enterprise Status is the first workspace that is visible when you log in to the portal client. However, you can now set a ***home workspace***, the first workspace to show when you log in to the portal client. You can return to it anytime by clicking the new **Switch to Home Workspace** button. To set a workspace as your home workspace, perform the following steps:

1. Open the workspace.
2. Click **Properties**.
3. Select the **Assign as Home Workspace** option.

If the workspace you select to be your home workspace is no longer available, the Enterprise Status workspace opens by default.

Referring to a workspace as a URL

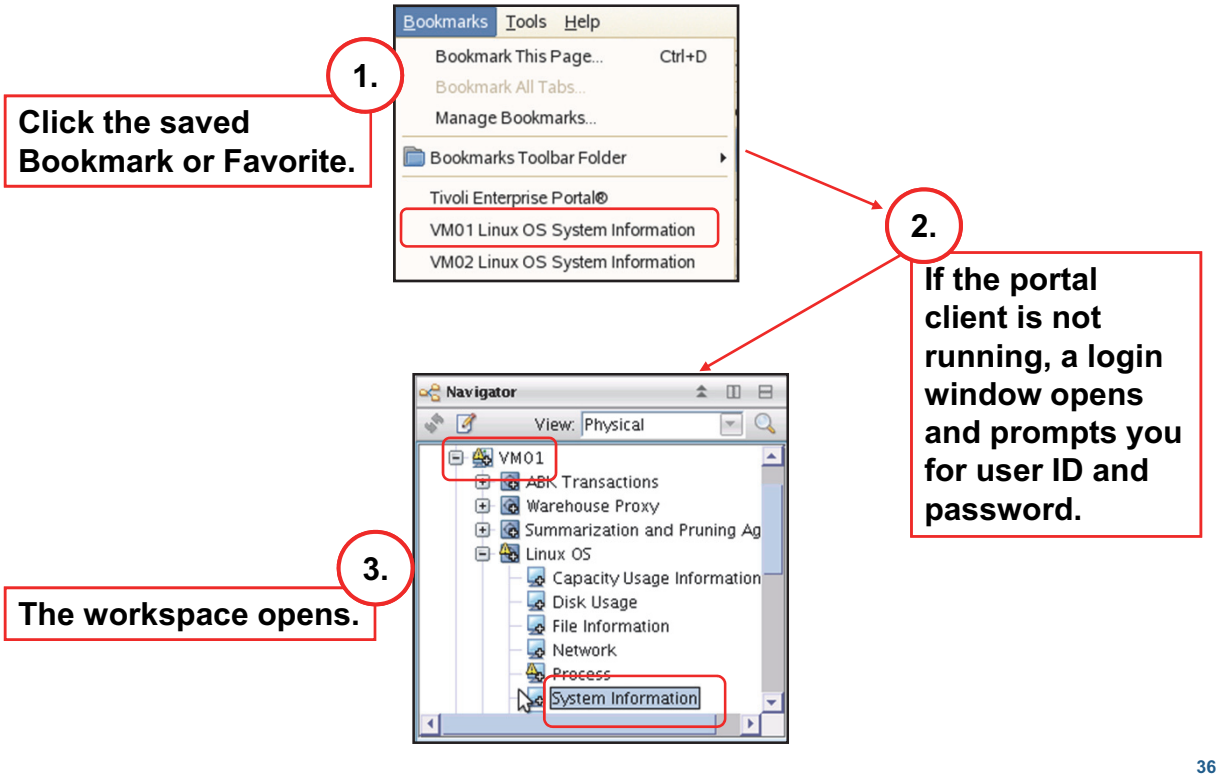
- While you use the browser client, all portal workspaces are accessible as URLs.
- Copy and paste the URL, or click it from **Bookmarks** or **Favorites**.



Referring to a workspace as a URL

The last option for navigating workspaces is available only for browser clients. Using a Uniform Resource Locater (URL), you can go to a workspace from outside the portal client application window. The browser client assigns a URL to each workspace. You can send a workspace URL in an email or include it as a hypertext link in an HTML page or other document. You can also save it in Internet Explorer as a **Favorite** or as a **Bookmark** in Firefox.

When accessing a URL with no client open, a login window opens and prompts for your ID and password. If you access the workspace from a system that has never run a portal client, the client downloads and installs. You can disable this feature in the portal server settings.

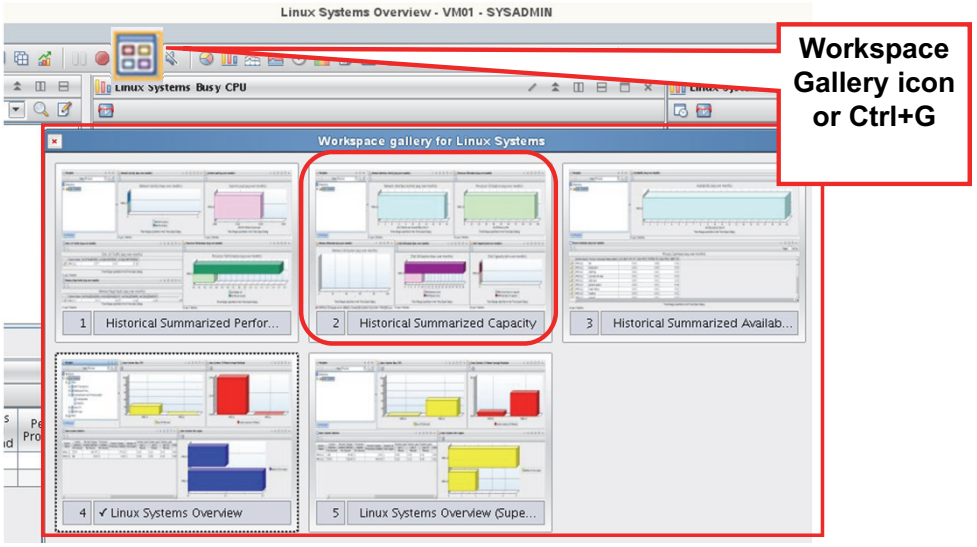


Opening a workspace URL

This slide illustrates how to open a workspace through a URL when using Firefox on Linux. Because the URLs are long and cryptic, you can save them in your **Favorites** list. The name of the workspace shows as the entry in your **Favorites**.

Using the workspace gallery

- Click a thumbnail to open that workspace. To open a workspace in a new window, press **Ctrl+Shift** while clicking.
- There are workspace galleries for each navigator item.



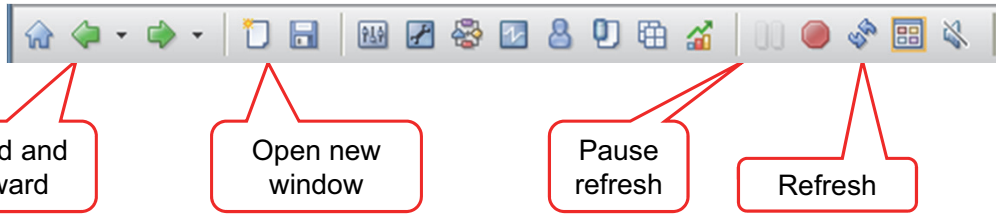
Using the workspace gallery

The workspace gallery provides scalable thumbnail images of the workspaces that are available for any selected Navigator item. The gallery makes it easier to determine the data, in the form of workspaces, you can open from a selected Navigator item. Workspace galleries include descriptions that provide name, description, and auditing information when you position the mouse cursor over them.

Reorder the thumbnails by dragging and dropping them.

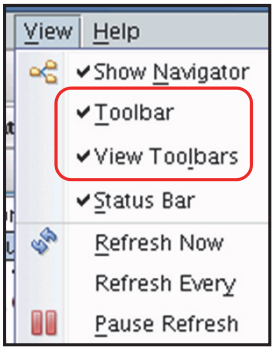
Toolbar buttons: Navigation and windows

- Desktop



- Browser
  - Forward and back on the browser window
  - No open-new-window capability unless you use the menu bar.

- Able to hide workspace and view toolbars



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Toolbar buttons: Navigation and windows

You can use some of the toolbar buttons to navigate workspaces. The placement of buttons in the application window depends on the portal client you use. You can hide the toolbar to give more space to the workspace views.

Use the **Back** and **Forward** buttons to get to previously opened workspaces. When you use the browser client, the browser navigation buttons replace some buttons, such as **Forward** and **Back**.

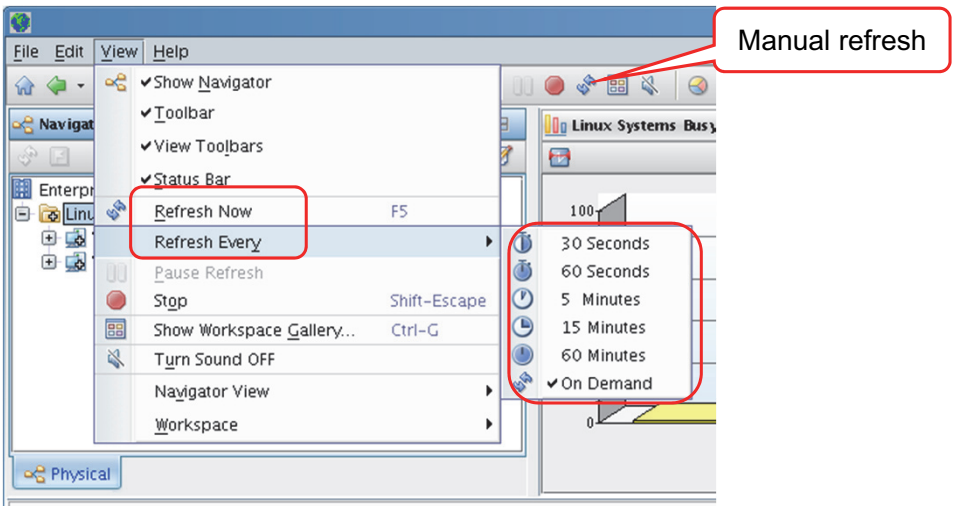
Opening a new window is available only with the desktop client. With the browser client, you can open another browser window by using either of the following two methods:

- Click **File > New > Window** from the menu.
- Press **Ctrl+N** on the keyboard.

The **Pause refresh** feature is active only when you set an automatic refresh interval. You can toggle between automatic refresh and pause mode. ***Refresh*** manually updates a workspace and its visible data.

Refreshing workspaces

- Refresh workspaces manually by clicking the Update button  or by pressing **F5** on the keyboard.
- You can set a refresh interval so the workspaces update automatically.



Refreshing workspaces

Refresh manually updates the visible data in a workspace and triggers the request of a new sample of the data from the data source.

Note: Refreshing a workspace can be a resource-intensive operation. Therefore, use the automatic refresh settings of 30 seconds or 60 seconds carefully.

Lesson 5. Managing views

Lesson 5: Managing views

- View types
- Maximizing and restoring views
- Exchanging views
- Finding data in a view

What this lesson is about

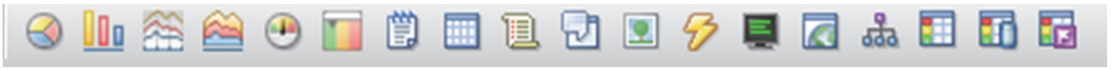
Views show monitoring data and other information. You can use different types of views to see resource availability and performance.

What you should be able to do

After completing this lesson, you should be able to perform the following tasks:

- Identify view types.
- Search table views
- Describe how to modify and save workspaces.

View types



Data Views	Special Purpose Views	Event Views
▪ Table ▪ Charts • Pie • Bar • Plot • Area ▪ Gauge • Circular • Linear	▪ Notepad ▪ Universal Message console ▪ Take Action ▪ Terminal (3270 or telnet) ▪ Browser ▪ Topology	▪ Situation event console ▪ Tivoli Enterprise Console ▪ Message log ▪ Common event console ▪ Graphic

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View types

This chart lists the types of views available in the Tivoli Enterprise Portal by category. All view types have a specific purpose, such as the following items:

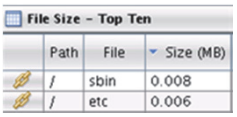
- Showing current data of enterprise resources.
- Providing operational data and actions.
- Showing different representations of your enterprise resources.
- Accessing areas outside the portal client, such as system consoles and websites.

A table view and six chart views show current data. Agents or other data sources collect current data whenever a user opens or refreshes a workspace. Use those views to accomplish the following tasks:

- Optimize system performance.
- Pinpoint and avoid problem areas.
- Provide usage trends.

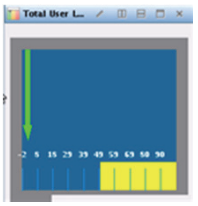
All other view types are available to build workspaces with specific functions or to generate a more meaningful view.

Data views



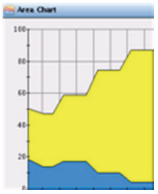
Table

Plot Chart

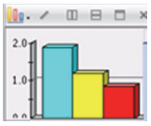


Linear Gauge

Pie Chart



Area Chart



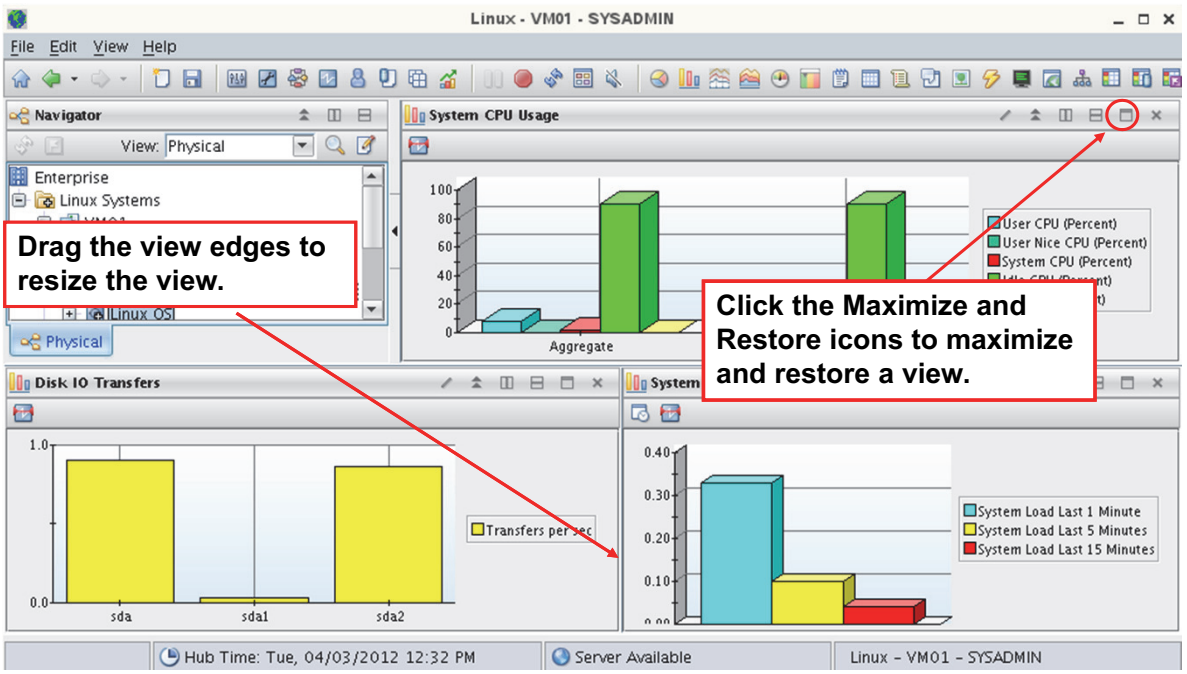
Bar Chart

Circular Gauge

Data views

- A table view shows all attribute values in rows and columns. The attribute names are the column headers.
- Pie charts show multiple values that total 100%, such as the amount of available disk space or the amount of processor utilization.
- Bar charts show multiple attributes and their relative values.
- Plot charts show changes in attribute values over time, useful for spotting trends.
- Area charts are similar to plot charts. The area beneath the attribute values fills with colors to help in visualizing the data.
- Linear and circular gauges show the value of a single attribute over a predetermined range.

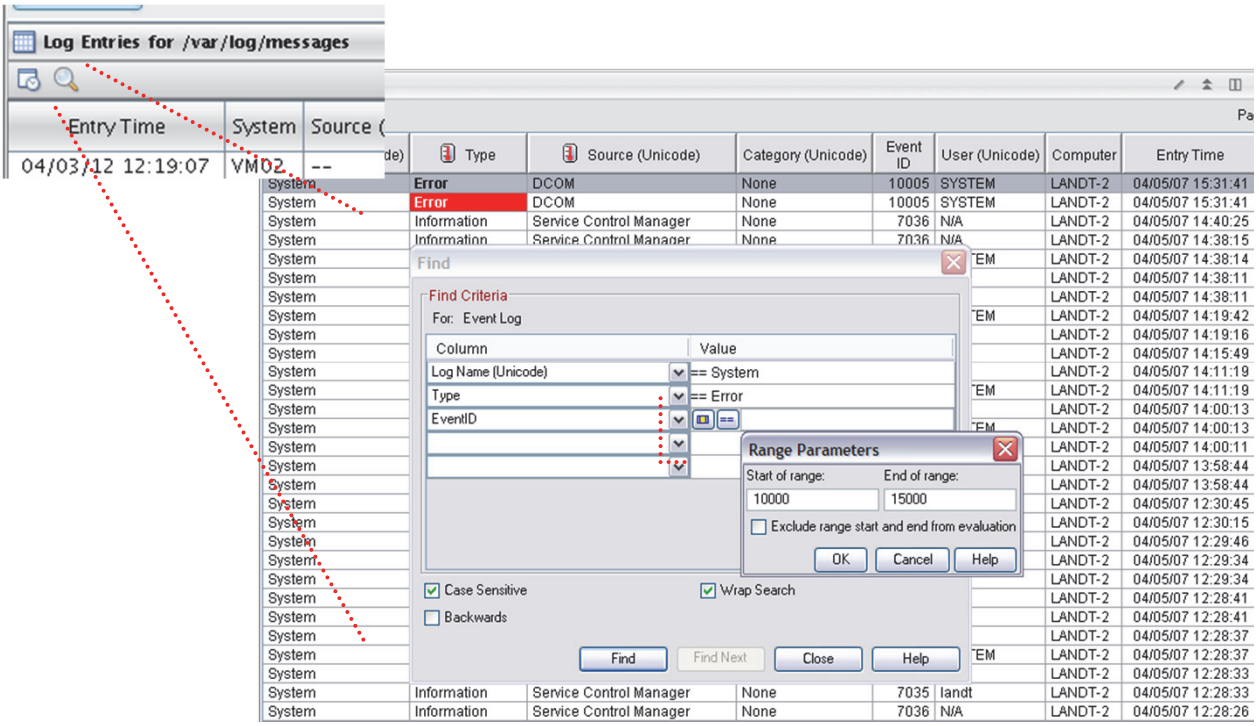
Resizing, maximizing, and restoring views



Resizing, maximizing, and restoring views

By default, each view is in a specific part of a workspace and typically shares the workspace with other views. You can adjust the size of the current view by clicking and dragging the edges of the view to the left, right, up, or down. Furthermore, you can maximize a view so it occupies the entire current workspace. After you maximize a view, you can restore it to its previous size and location.

Finding data in a view



Finding data in a view

Use the **Find** tool to quickly find specific data within a view. The **Find** tool is available for table views, including message log, event console, and universal message, with many rows of information. It is also available for Notepad and browser views that are filled with text. You can search for as many attributes as there are by using formula functions and wild cards.

Modifying workspaces and views

- Customize workspaces to fit your needs and interest by modifying, adding, or removing views, and saving the workspace. Requires **Workspace Author Mode**.
- Modifying workspaces does not affect other users, only the user ID that creates them.
- To change a view type, click the **New View Type** icon in the toolbar and click the view that you want to change.

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Modifying workspaces and views

Administrators create new workspaces by modifying existing areas and saving them under new names. They then make those new or changed workspaces available to the users. Users modify their own workspaces to better fit their needs.

Modifying workspaces and the specific purpose of each type of view is covered in more detail later.

