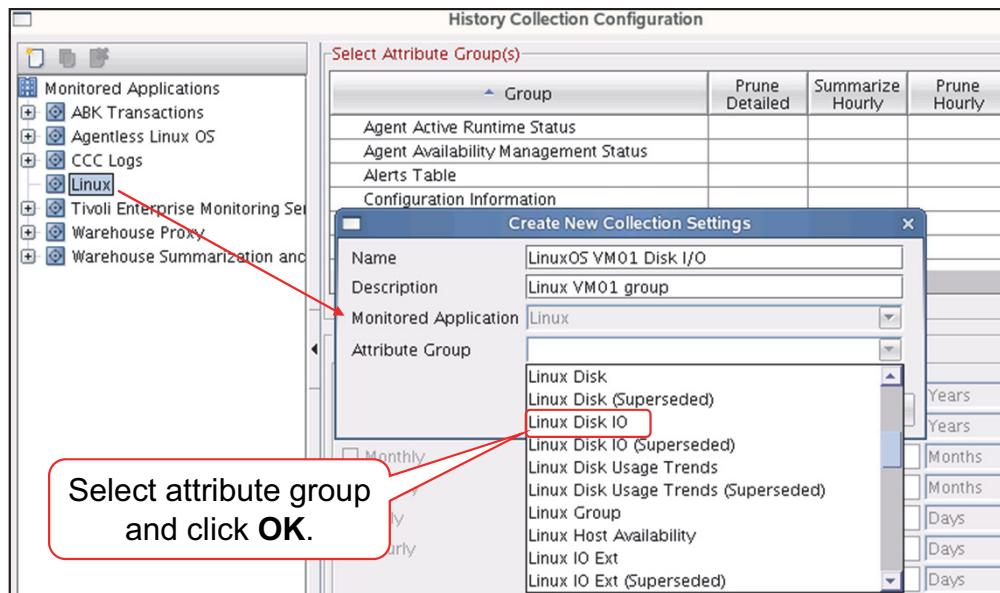


## Selecting an attribute group for setting



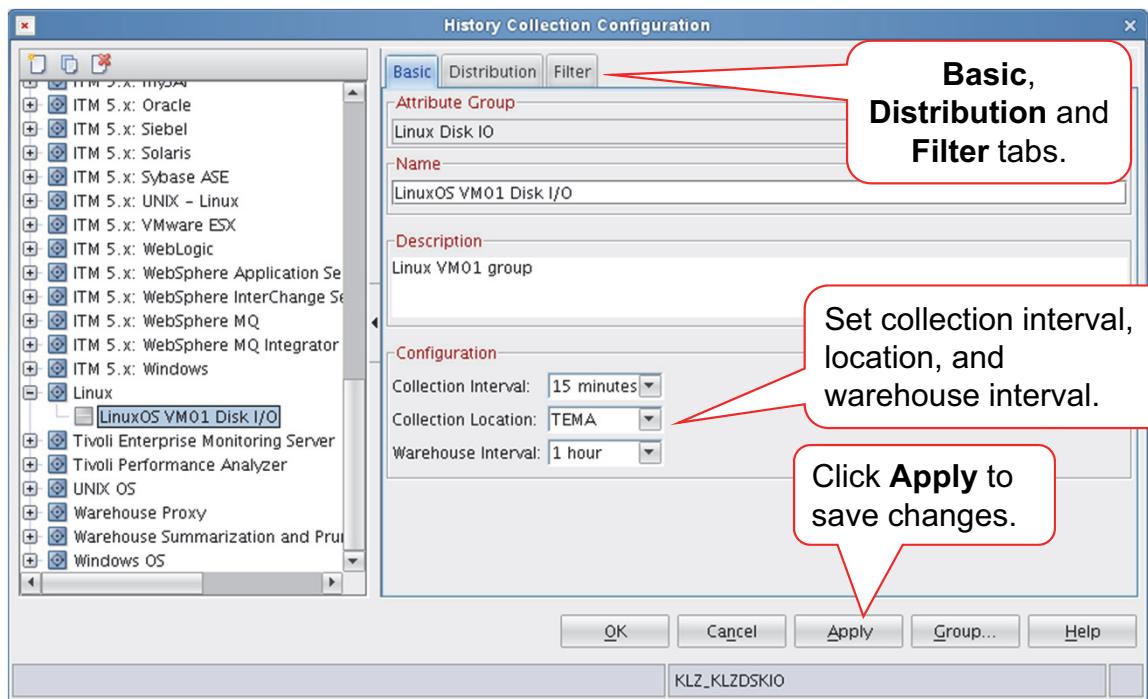
© Copyright IBM Corporation 2013

11

### Selecting an attribute group for setting

Type a name and a description. Use meaningful names to help identify the object. In this example, the host name **VM01** is part of the collection setting name. Select a single attribute group from the pull-down list, and click **OK**.

## Setting intervals and location



© Copyright IBM Corporation 2013

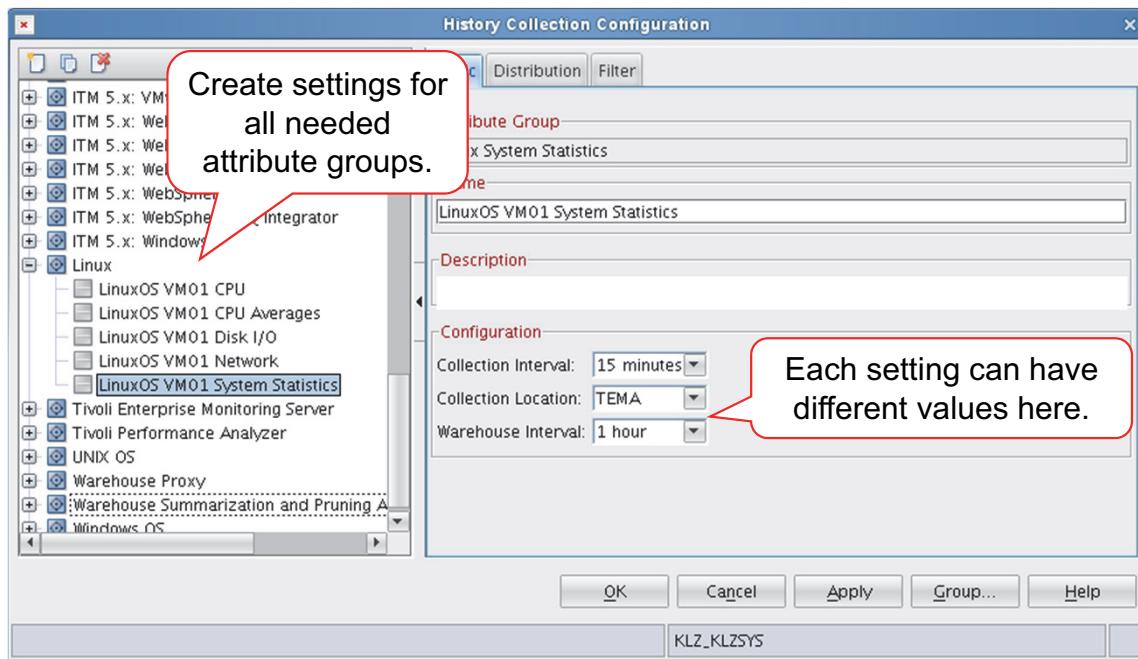
12

### Setting intervals and location

Set the collection interval, the collection location, and the warehouse interval. The default values are as follows:

- Collection Interval: 15 minutes
- Collection Location: TEMA or monitoring agent
- Warehouse Interval: 1 day

## Continuing for remaining attribute groups



© Copyright IBM Corporation 2013

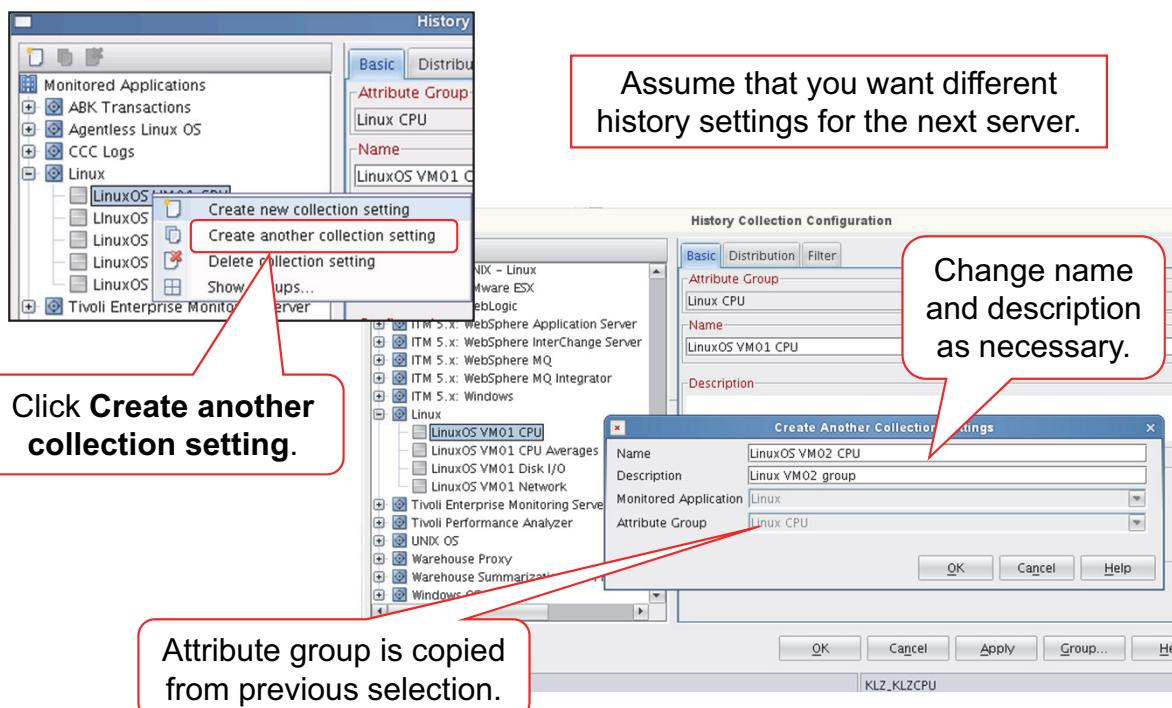
13

### Continuing for remaining attribute groups

The first attribute group setting is complete. Repeat the steps for each attribute group for which you plan on collecting historical data.

Each subsequent setting retains the interval and location from the previous one. Because you probably want to use different collection values for different attribute groups, do not overlook them.

## Creating settings for the next system



© Copyright IBM Corporation 2013

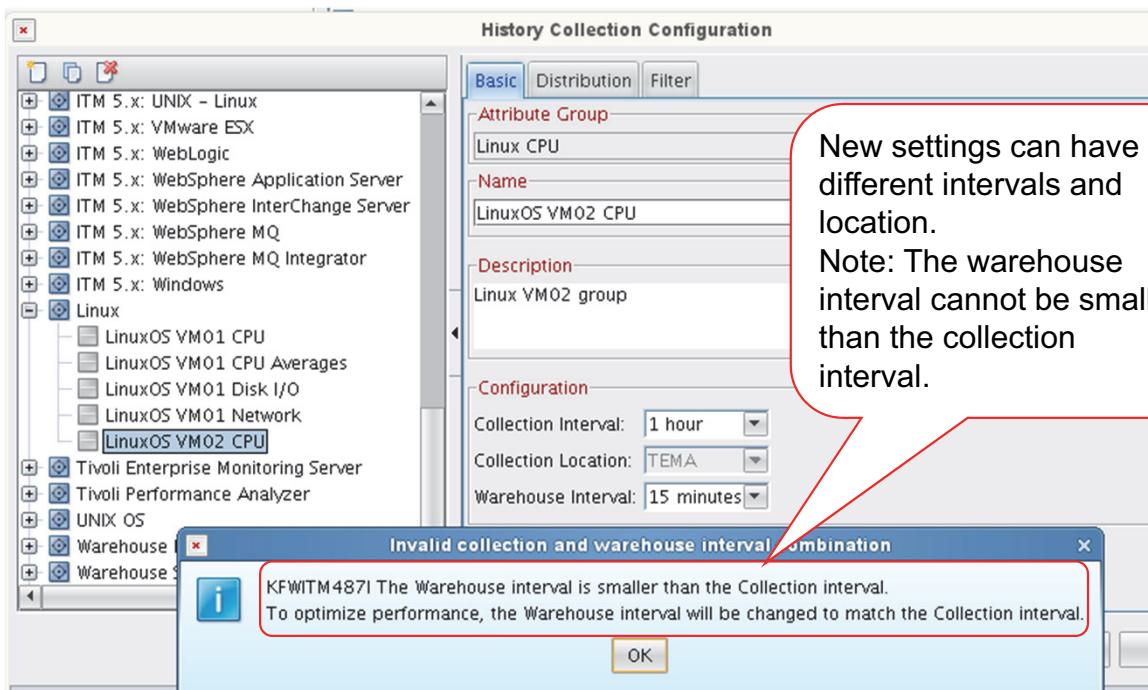
14

### Creating settings for the next system

If you have multiple monitored resources of the same type, you can have different collection characteristics on each one. Create more collection settings for the managed system, giving different values.

Select the setting that you want to copy, right-click, and click **Create another collection setting**. Change the name and description as needed. You cannot change the attribute group name here. It is a good practice to put the managed system name as part of the collection setting name. Doing so facilitates distributing the settings to the appropriate managed system.

## Setting collection intervals and location



New settings can have different intervals and location.  
Note: The warehouse interval cannot be smaller than the collection interval.

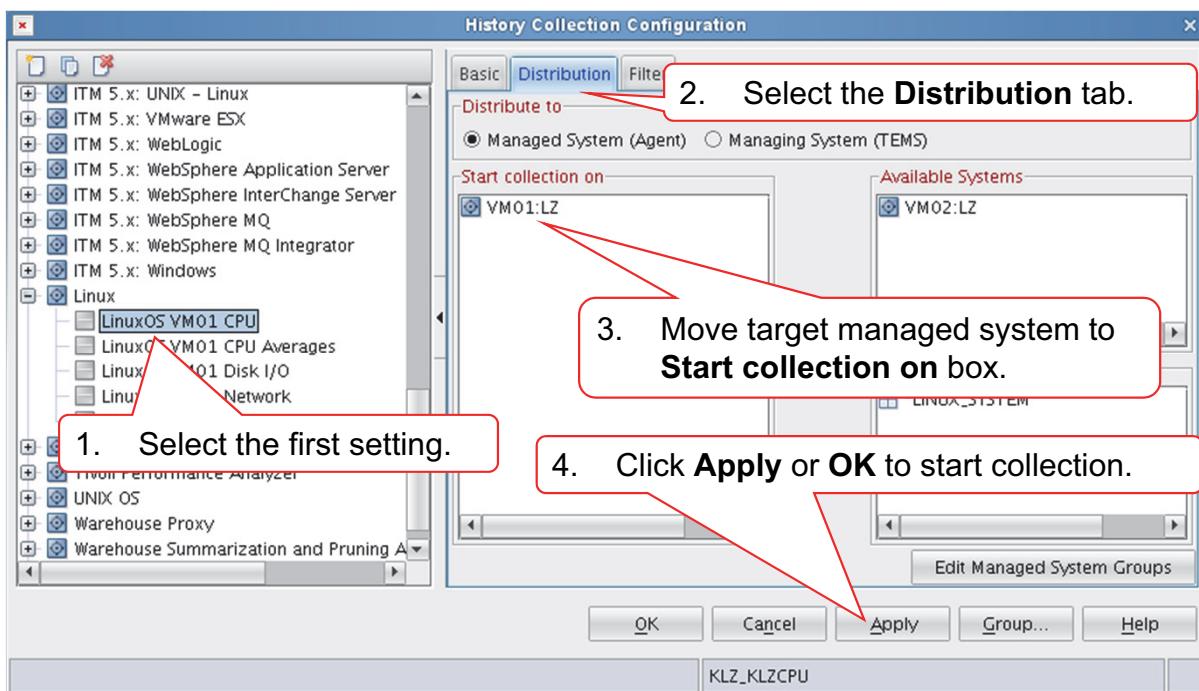
© Copyright IBM Corporation 2013

15

### Setting collection intervals and location

You cannot select a warehouse interval that is smaller than the collection interval. It makes no sense to send data to the warehouse more often than the agent collects it. If you attempt to do so, the warehouse interval is set to match the collection interval.

## Distributing to target managed systems



© Copyright IBM Corporation 2013

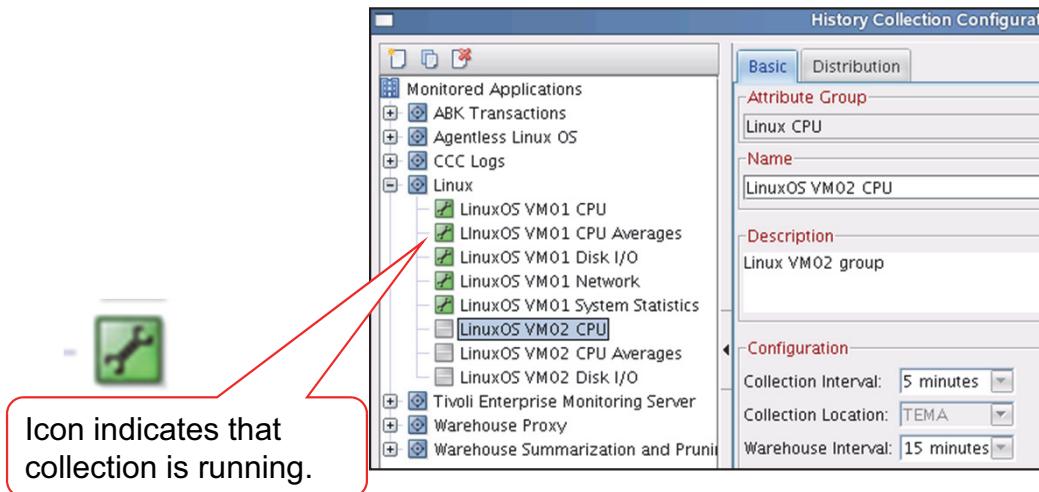
16

### Distributing to target managed systems

Now that you configured all the attribute groups that you need, you can distribute the collection settings to a managed system. Follow the steps on this slide to distribute one collection setting. Repeat for each attribute group.

The list of **Available managed systems** begins with managed system groups. To locate an individual managed system, you must scroll past the managed system groups.

## Historical data collection is running



© Copyright IBM Corporation 2013

17

### Historical data collection running

When you successfully define and distribute the collection setting, historical data is collected. The icon next to the collection setting turns green.

You can manage historical collection settings with tacmd line commands, such as the following examples:

- histcreatecollection
- histStartcollection
- histStopcollection

Refer to the Commands Reference document for complete syntax of the historical collection line commands.



**Note:** Removing an offline managed system deletes historical collection settings that are distributed to that agent.

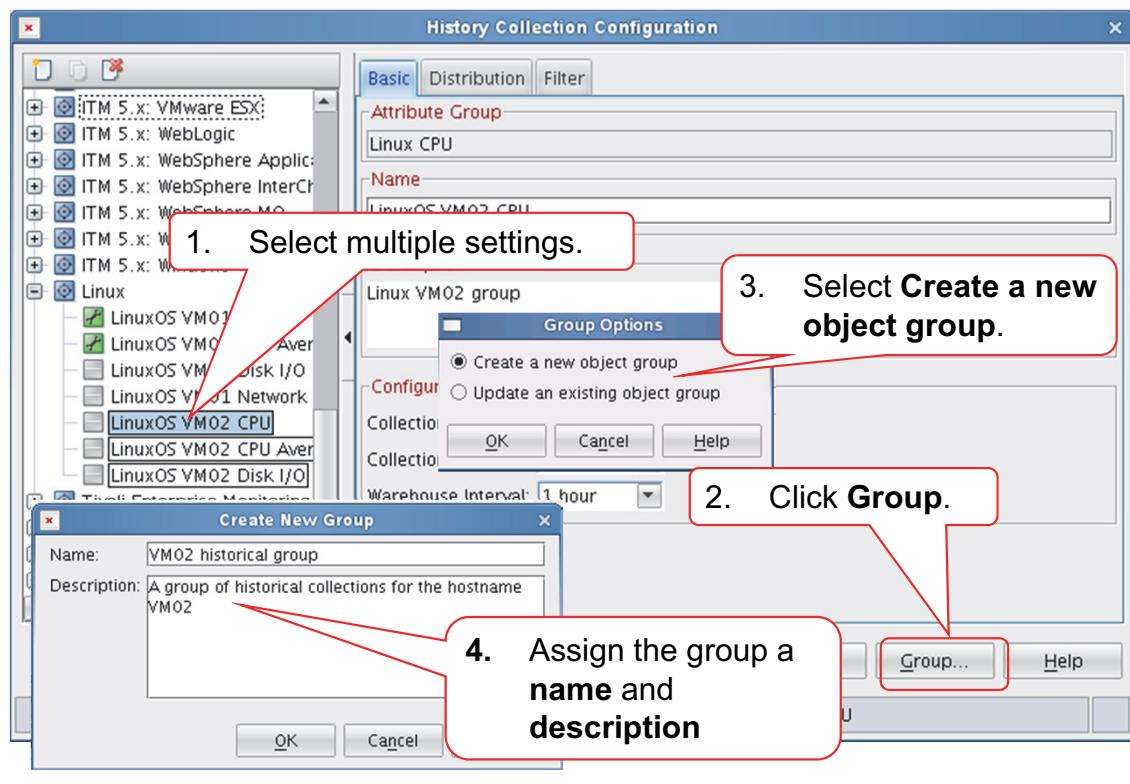
## Historical data groups

- Distributing collection settings to multiple managed systems is tedious and time-consuming. New or removed servers require updating each collection.
- You can combine collection settings into a group from the History Collection Configuration window.
  - Select multiple collection settings.
  - Click Group to create a new group. The command opens the Object Group editor.
  - Distribute the new historical group to a managed system or a managed system group.

### Historical data groups

Using historical groups can greatly reduce the time that you need to manage historical data collection. You can create a group and add multiple settings to it and distribute all of them as a single entity.

## Group multiple collection settings



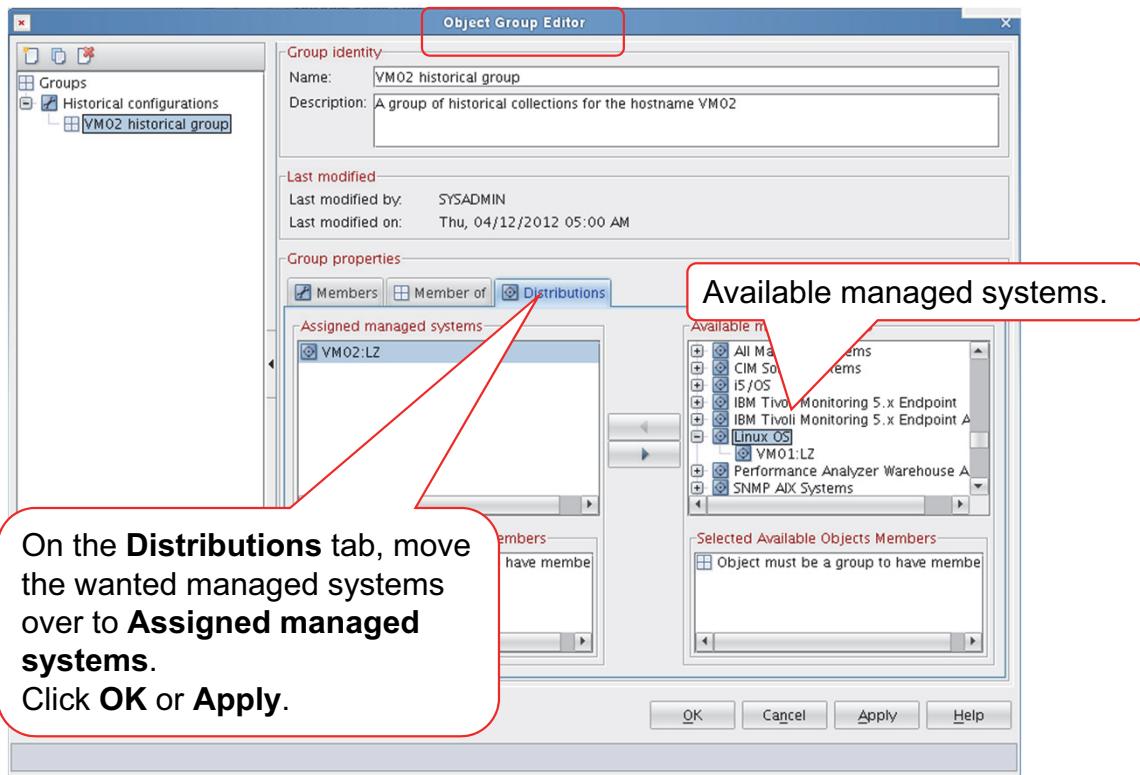
© Copyright IBM Corporation 2013

19

### Grouping multiple collection settings

Select as many collections settings as you want in the group. Click **Group** to create a new object group. Type a name and description and click **OK**. The object group editor opens.

## Distributing a historical group to a managed system



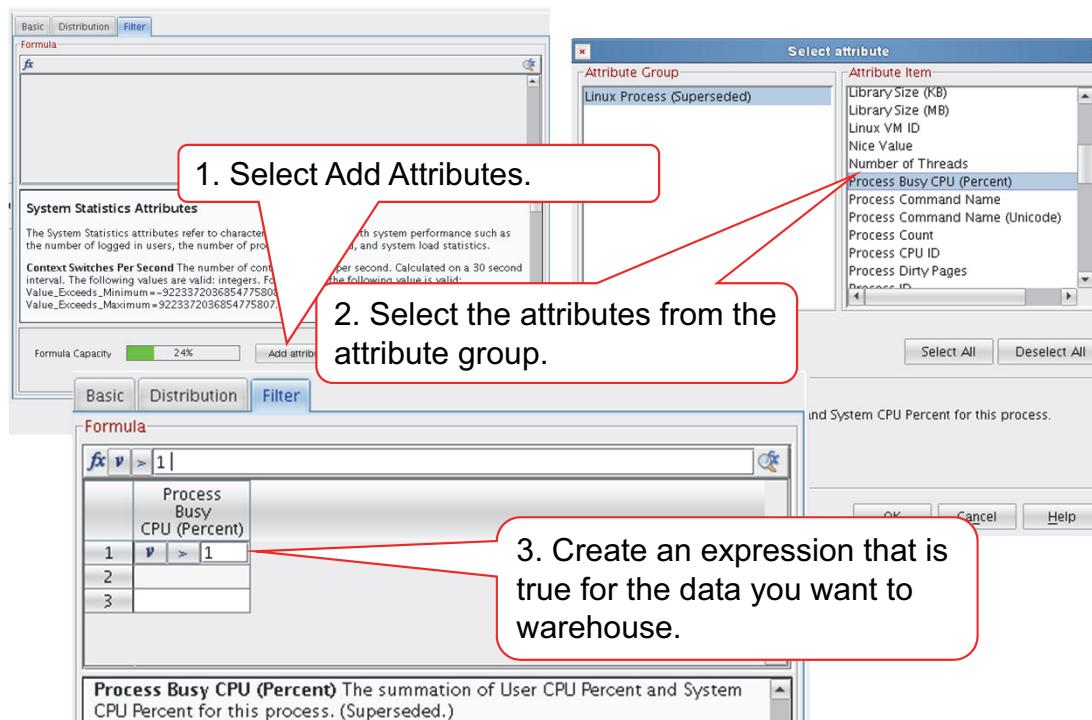
© Copyright IBM Corporation 2013

20

### Distributing a historical group to a managed system

Choose the managed systems or managed system groups from the **Available** field and move them to the **Assign** field. The **Available** field lists managed system groups, followed by managed systems. You must scroll past the groups to see the systems.

## Filtering historical data



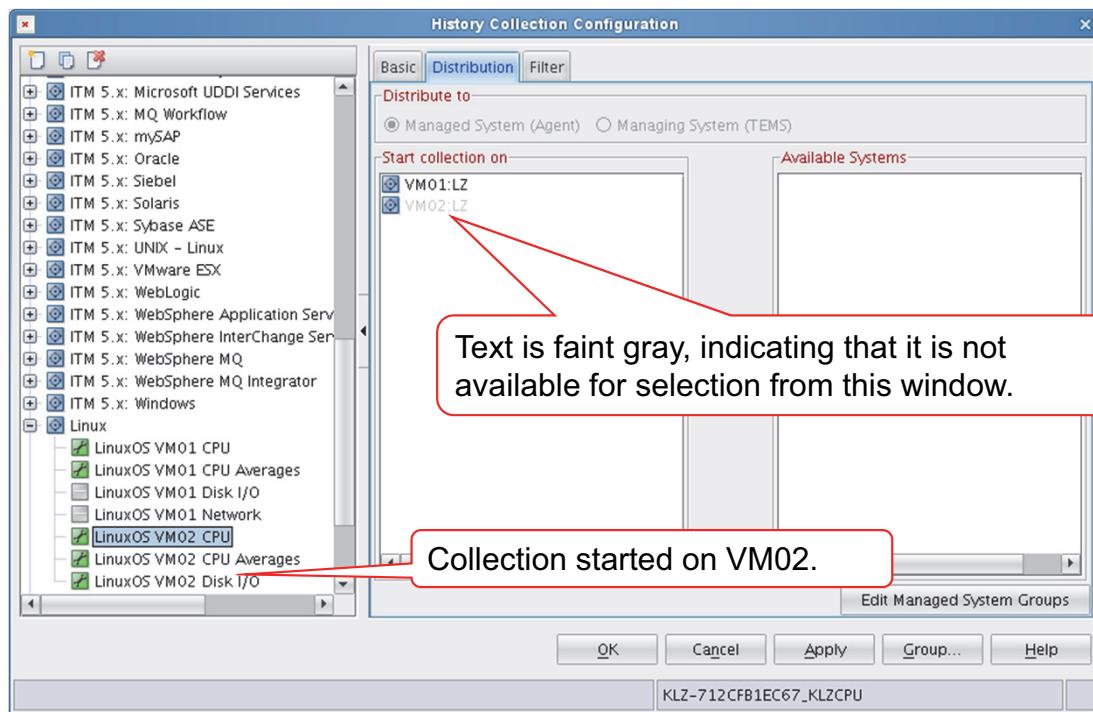
© Copyright IBM Corporation 2013

21

### Filtering historical data

The Filter tab looks much like the Formula tab in the situation editor: It has a formula editor with an area for the attribute help; an Add Attributes button for selecting attributes to filter on, and a formula capacity counter that reports what percentage of the maximum formula size is consumed. To collect and store a row of data in the short-term history file, all expressions in at least one row must be true. This section is similar to the Filters tab of the view properties editor where a row is shown in the table or chart view only if the values meet the criteria of the filter formula.

## Historical collection started



© Copyright IBM Corporation 2013

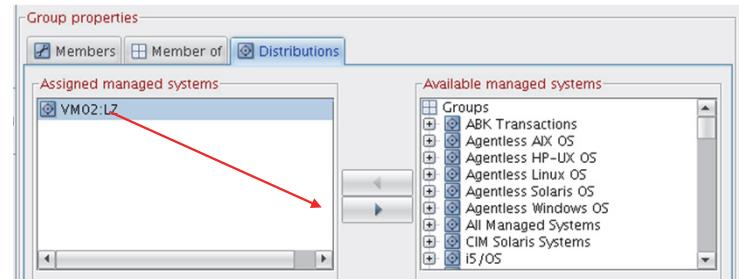
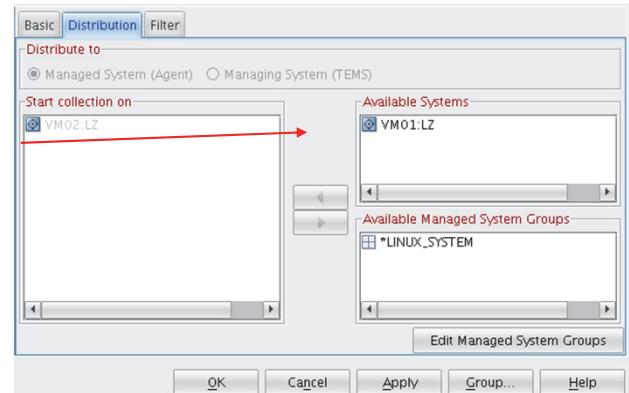
22

### Historical collection started

Historical collection is started on the selected settings, as seen in this example. You cannot modify the settings because they are distributed as a group. You must return to the object group editor to remove that group from the distribution.

## Stopping historical collection

- Individual collection settings:  
At History Collection Configuration **Distribution** tab, move from **Start collection on** to **Available Systems**.
- History groups:  
At object group editor **Distributions** tab, move from **Assigned managed systems** to **Available managed systems**.
- Click **OK** or **Apply** to stop collection.



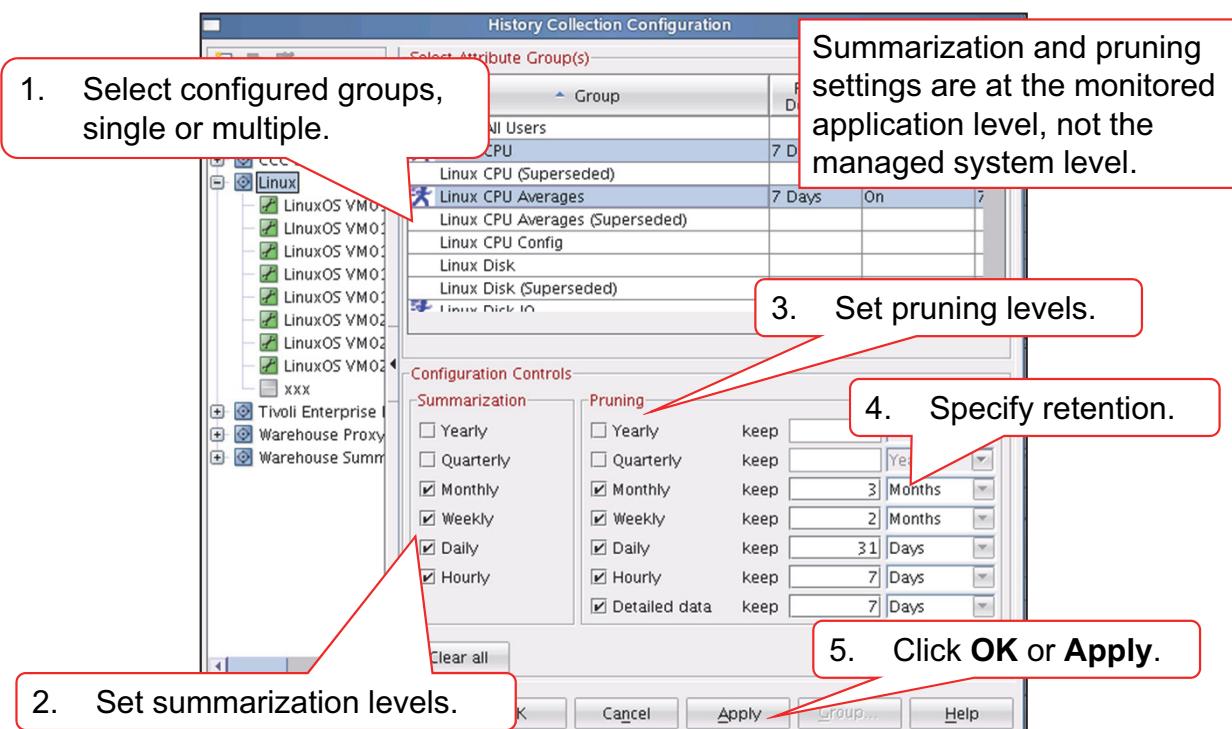
© Copyright IBM Corporation 2013

23

### Stopping historical collection

Stop historical collection by moving a managed system or managed system group from **Assigned** to **Available**. There is no explicit Stop or Start button.

## Summarization and Pruning settings



© Copyright IBM Corporation 2013

24

### Summarization and pruning settings



**Note:** Summarization and pruning runs the same way for all managed systems of the same type. Different attribute groups can have different summarization and pruning settings, but it is not possible to have different settings for individual managed systems.

Summarize only the minimum amount that the business requires. Each attribute group must be evaluated for business needs. If the business requires only daily and hourly summaries, do not select **Weekly**, **Monthly**, **Quarterly**, and **Yearly**. If it needs only detailed data, prune the data after a retention period without summarization to improve performance. Remember pruning when you work with large tables, such as tables with process data.

You manage the schedule for the summarization and pruning agent from the configuration window. Open that window from the Manage Tivoli Enterprise Monitoring Services window.

## Historical data collection: Summary

- Identify target managed systems.
- Identify attribute groups that satisfy known business needs.
- Create managed systems groups to group like systems.
- Create historical settings for each necessary attribute group.
- Create more settings when different collection characteristics are necessary.
- Create groups of historical settings.
- Distribute historical groups to managed systems or groups.
- Monitor warehouse database disk usage to avoid running out of space.

© Copyright IBM Corporation 2013

25

### *Historical data collection: Summary*

This page summarizes the procedures to collect and store historical data. Capacity planning information for historical data is in the Attribute Reference section of user documentation for each agent.

The IBM Tivoli Monitoring 6.x Warehouse Load Projections spreadsheet, found on the Integrated Service Management Library website, can help with capacity planning. This Microsoft Excel® spreadsheet contains space requirements for more than 50 monitoring agents.

The Integrated Service Management Library is found at  
<https://www-304.ibm.com/software/brandcatalog/ismlibrary>.

# Lesson 3. Viewing historical data in workspaces

## Lesson 3: Viewing historical in workspaces

- Data views normally show current, real-time information. Refreshing the workspace loads the most current data.
- Viewing historical data:
  - Configure all the attributes in the view to collect historical data so you can view the data.
  - Click the **Specify Time Span for Query** icon.
- Returning to current data:  
Set the time span to real time.



### What this lesson is about

After historical data collection is running, you can see the data in workspace views. This lesson shows how to control historical data in views.

### What you should be able to do

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

- Use the Select the Time Span window to control how much data you see in a view.
- Use the historical navigation tool to lock all workspaces and products to a time span.

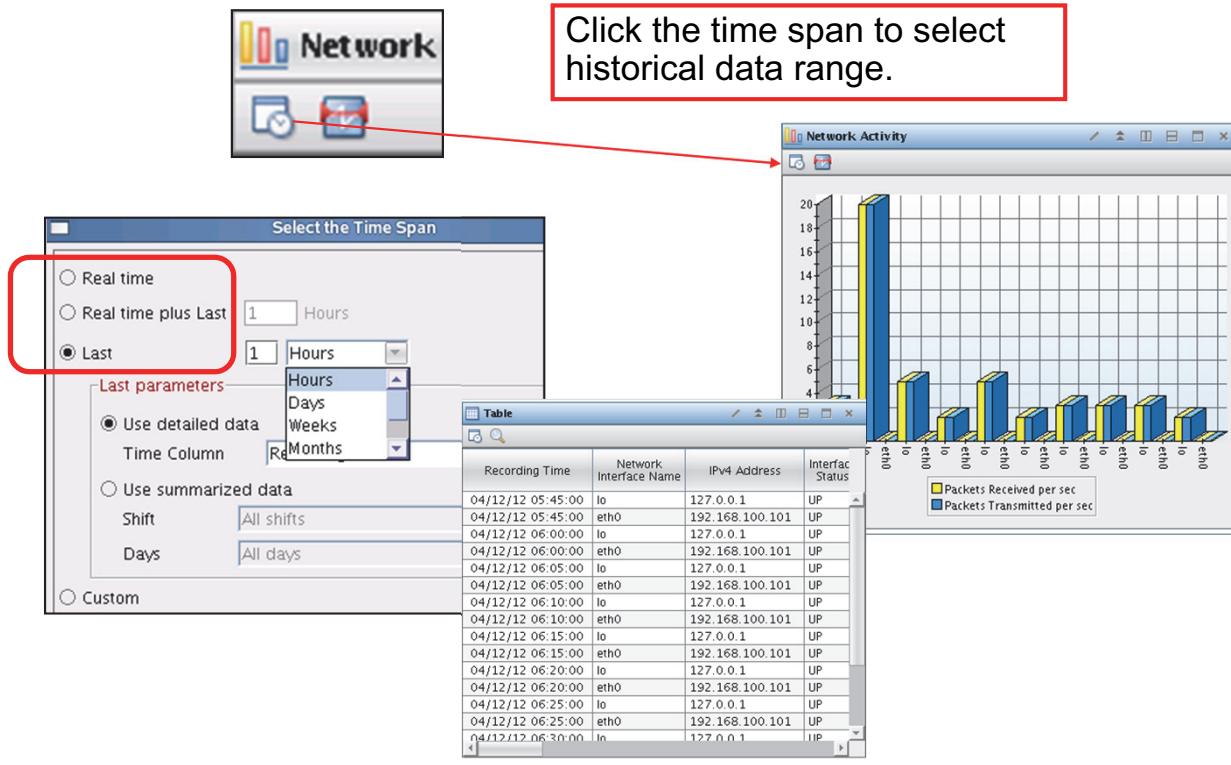
You can collect and store monitoring information as historical data, and show it in workspace views. Most views show the current data and update it when the workspace refreshes.

If you configure and start historical data collection for the appropriate attribute groups, you can see historical data in the following types of views:

- Table
- Bar chart
- Pie chart
- Plot chart

To see historical data in a history-enabled view, you must specify the time span for the data you want to collect. To return to viewing current data, you must discontinue the reporting of historical data. The Time Span tool icon in the view toolbar controls visibility of historical data.

## Setting the time span



27

### Setting the time span

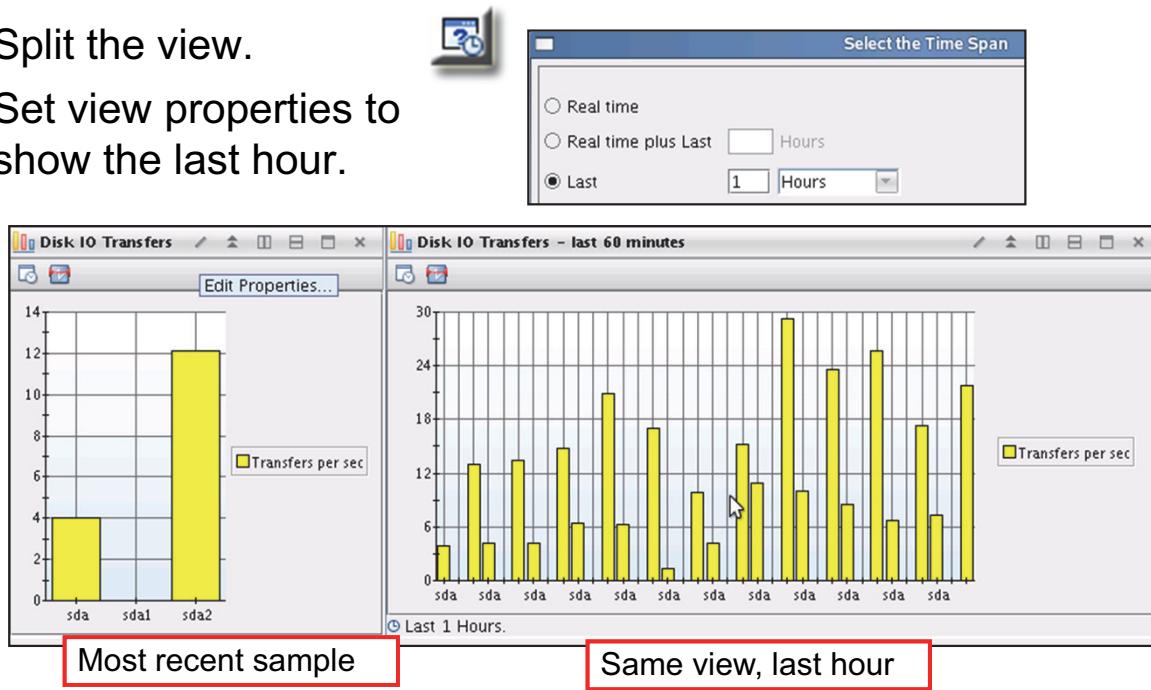
Views that you enable for historical data show a new icon in the upper left corner. Click this icon to specify the time frame for viewing historical data. The options are as follows:

- Real time, which is the default and shows no historical data.
- Real time plus last
- Last

You can specify time in hours, days, weeks, and so on. You can also set custom time frames with specific ranges for dates and times.

## Displaying real-time data and historical data

1. Split the view.
2. Set view properties to show the last hour.



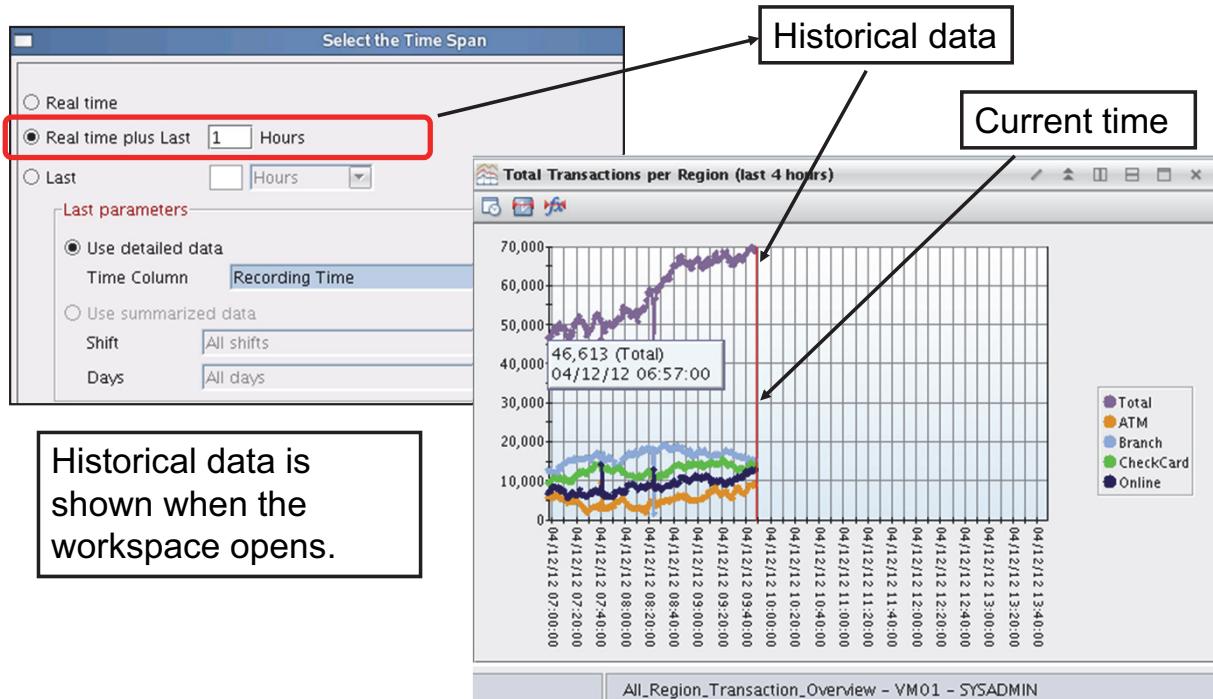
© Copyright IBM Corporation 2013

28

### Displaying real-time data and historical data

This slide shows the same view with real-time data on the left and historical data on the right. This technique is useful to observe trends while seeing a larger view of the last sampling interval.

## Priming a plot view with historical data



© Copyright IBM Corporation 2013

29

### Priming a plot view with historical data

Plot views start when someone opens the workspace or changes the view properties. If you want to watch some activity over the past hour but also see real-time data, click **Real time plus Last** and specify the number of hours of historical data to include. The plot continues to refresh at its set rate, which might be different than the workspace refresh rate or the historical collection rate. The red vertical bar denotes the current time, which continues moving to the right until the plot view closes.

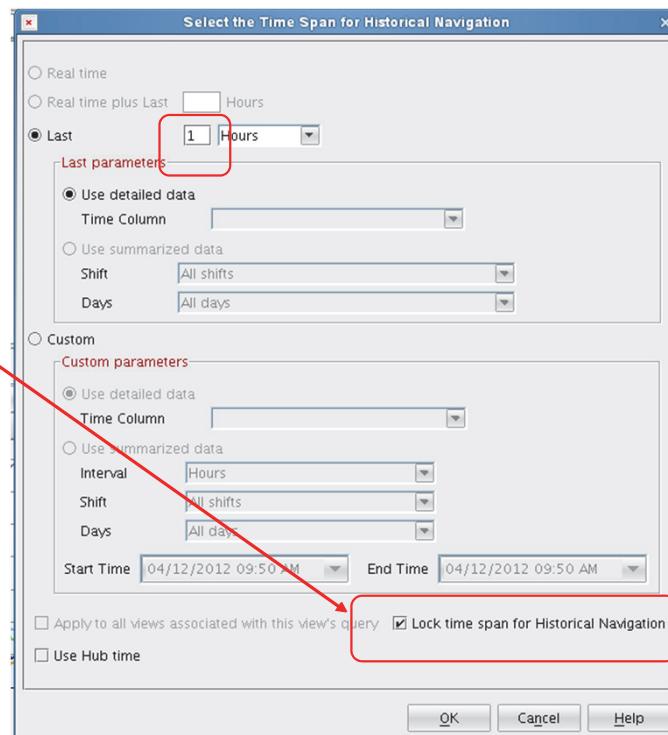
In this example, the plot view refreshes every 10 seconds. An hour of historical data is added, but the historical collection rate was every minute. That causes the difference in the appearance of the plot lines in the middle of the view. At that point, the plot begins recording data every 10 seconds instead of the historical rate of every minute. More data points cause the line to appear thicker.

## Using the historical navigation tool

- The tool icon is at the extreme right edge of the toolbar.



- Set any of the time controls. That setting applies to all views you enabled for historical data.



© Copyright IBM Corporation 2013

30

### Using the historical navigation tool

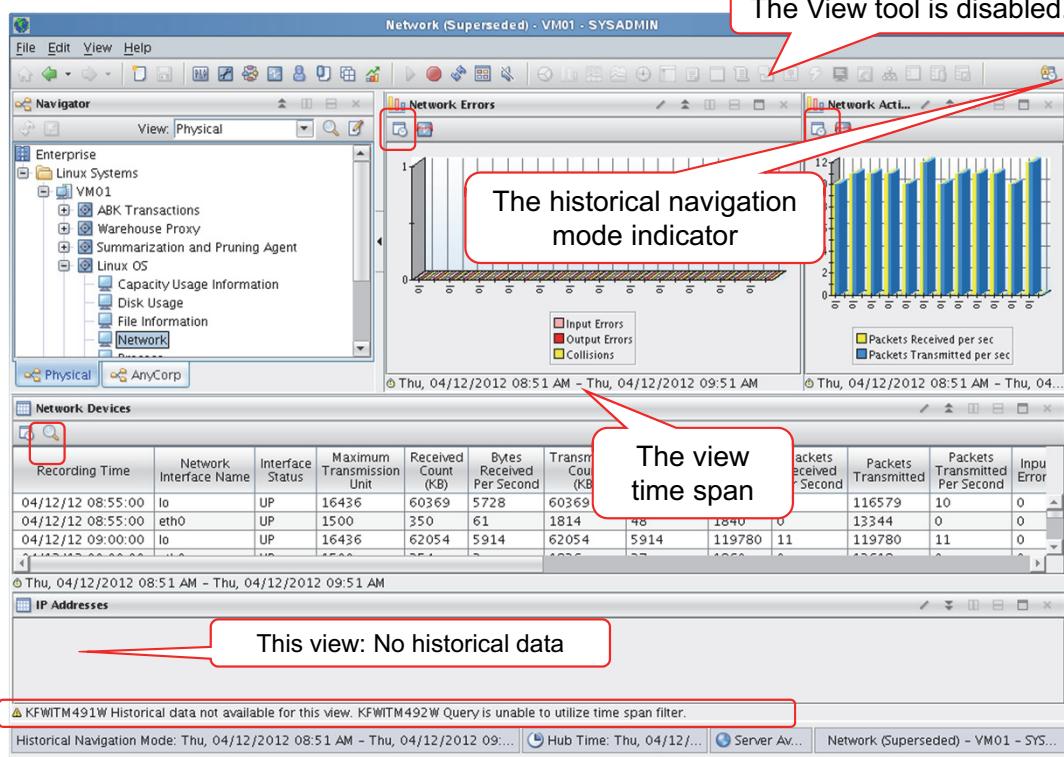
When you set a historical span on a view, it applies only to that view. With the historical navigation tool, you can apply the historical range to every view in every workspace, including workspaces of other monitor products. You affect only those views that support historical data.

Having the same range of historical data makes problem determination much easier because you do not need to set each view individually. You can switch from workspace to workspace, and all the views show the same time range. You can also switch to a different managed system, and the time range remains.

The **Lock time span for Historical Navigation** box is automatically selected. This setting applies across all workspaces in the Navigator.



## Historical navigation mode



© Copyright IBM Corporation 2013

31

### Historical navigation mode

The current historical navigation setting is visible at the bottom of each view. For those views with queries that support historical data, and not all of them do, a set of attributes is shown for each collection interval. Maximize a view to see more detail if necessary.

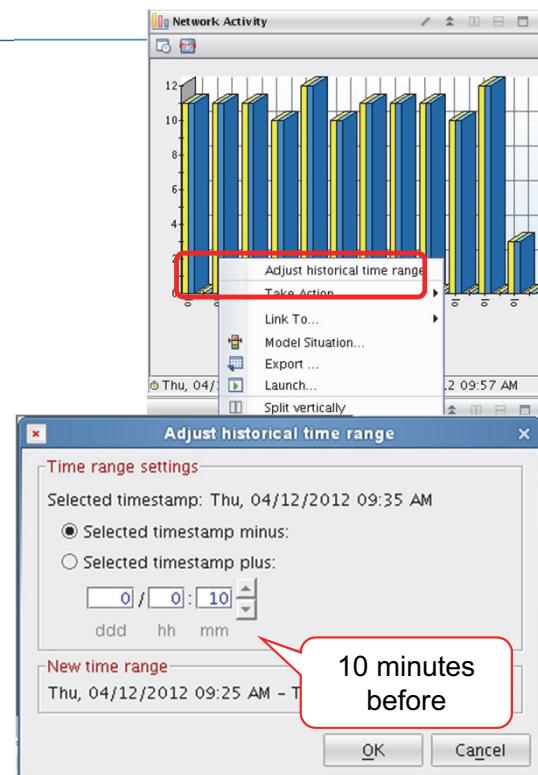


**Note:** While you use the historical navigation tool, the views do not refresh, even if set to do so automatically.

While the tool is active, the time span does not change. Notice that the view tools are disabled. You cannot modify views while they are in historical navigation mode.

## Adjusting the time range

- Right-click a chart object to select a smaller time span.
- Set a time period before or after the selected collection time.



© Copyright IBM Corporation 2013

32

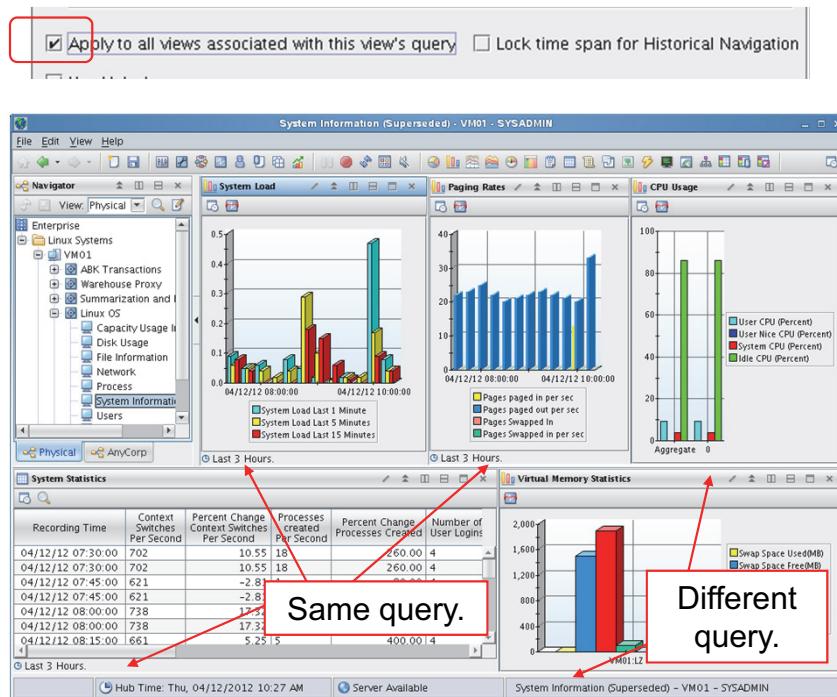
### Adjusting the time range

You can look more closely at the events that lead up to that time by narrowing the time range. You do not need to return to the Historical Navigation window.

Right-click a chart object and click **Adjust historical time range**. The new time span applies to all views. Use this feature to drill down to look more closely at activity. The smallest normal historical time span is 1 hour. To revert to real time, click the Historical Navigation icon and clear the **Lock time span for Historical Navigation** check box.

## Time span for all views with the same query

- You can set all workspace views that use the same query to the same historical range.
- The first and second views use the same query.
- The third view uses a different query. You cannot apply a historical range to it.



© Copyright IBM Corporation 2013

33

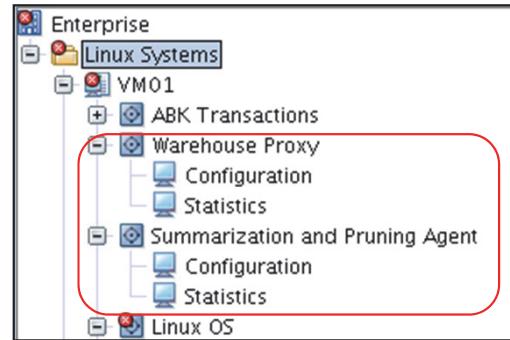
### Time span for all views with the same query

You can set all views on a workspace that use the same query to the same time span. Some of the views show historical data and some do not. The two views that show historical data use the System Statistics query and the third one uses the CPU query. The time span for all views with the same query and the historical navigation mode are mutually exclusive. Turning one on disables the other.

# Lesson 4. Self-monitoring historical workspaces

## Lesson 4: Self-monitoring historical workspaces

- Warehouse Proxy agent:
  - Configuration
  - Statistics
- Summarization and Pruning agent:
  - Configuration
  - Statistics



### What this lesson is about

This lesson introduces the self-monitoring workspaces for the warehouse proxy agent and the summarization and pruning agent.

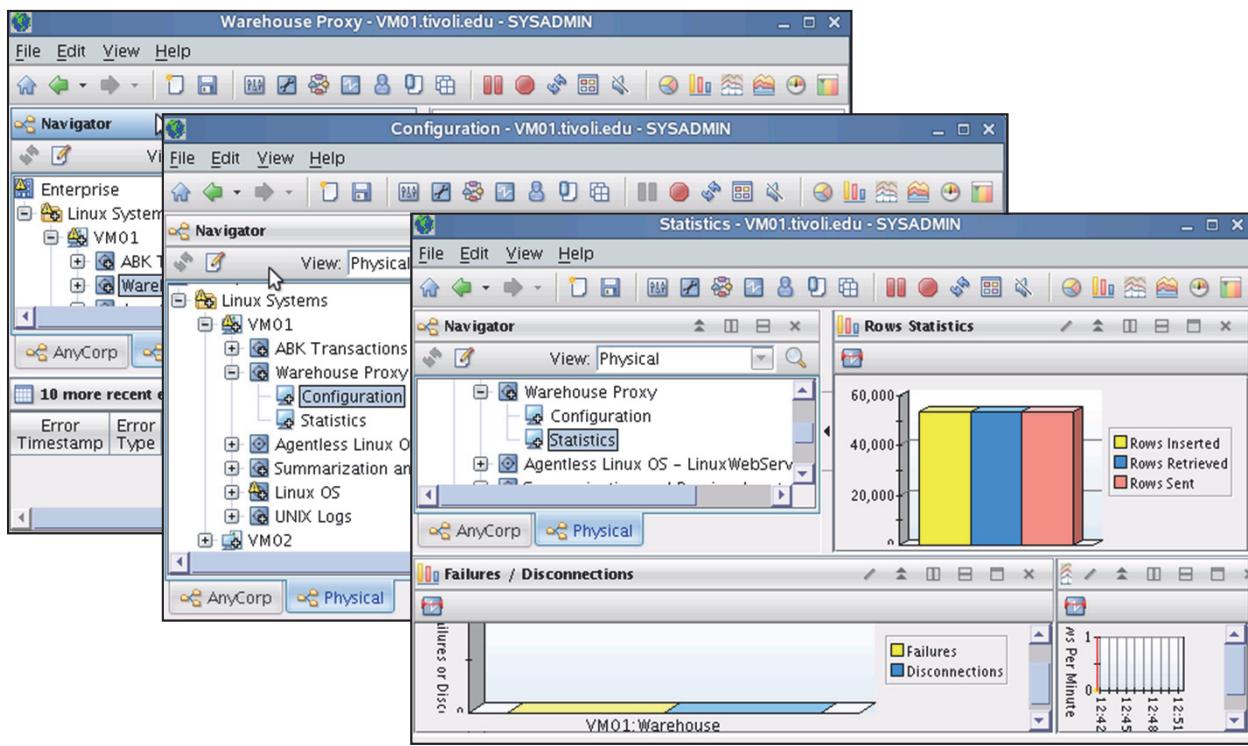
### What you should be able to do

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

- Describe the self-monitoring information that you can find in the warehouse proxy agent workspaces.
- Describe the self-monitoring information that you can find in the summarization and pruning agent workspaces.

The warehouse proxy and summarization and pruning agents provide workspaces for self monitoring. These workspaces have their own queries for data collection and situations for monitoring. The situations are not automatically distributed and started.

## Warehouse Proxy agent workspaces



© Copyright IBM Corporation 2013

35

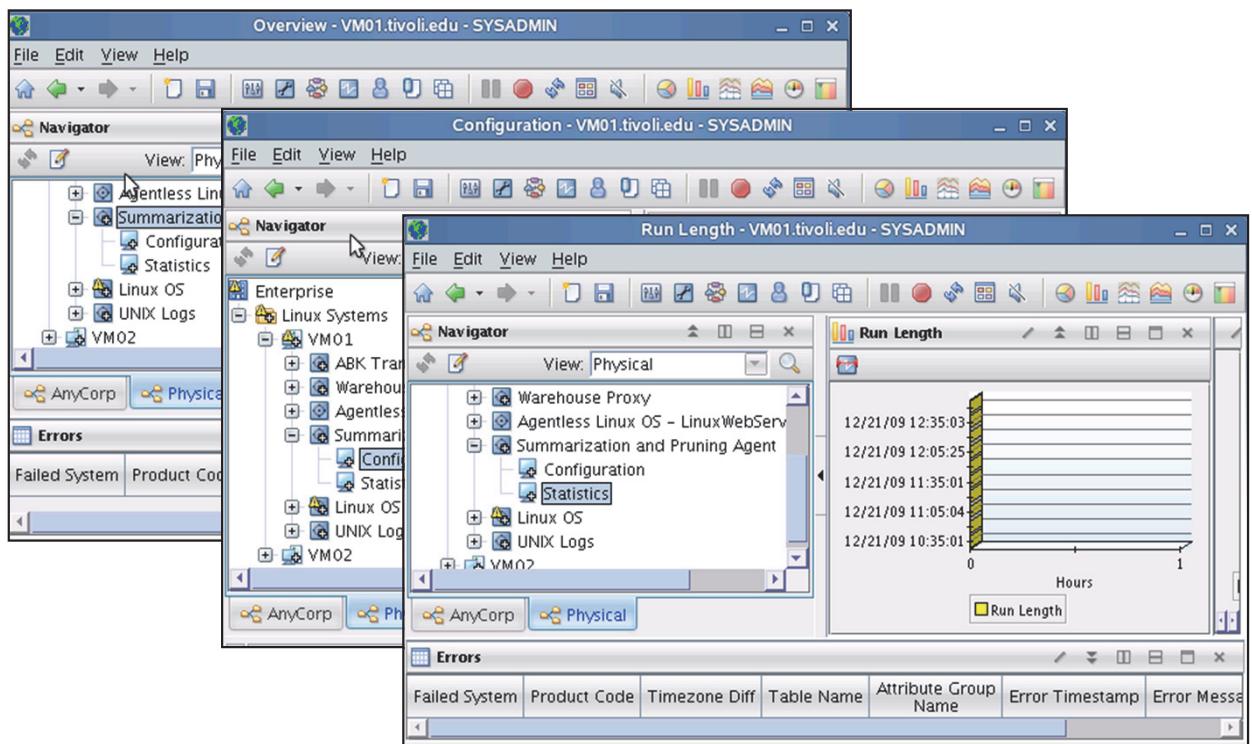
### Warehouse Proxy workspaces

The Warehouse Proxy agent has five workspaces:

- **Warehouse Proxy**: High-level information about health, activity, and the status of the database connection.
- **Configuration**: Database, JDBC and ODBC, and agent configuration
- **Agent Registration**: Agent addresses and WAREHOUSE\_TEMS\_LIST values
- **Statistics**: Rows that are imported and exported, failures, and throughput
- **Internal Statistics**: Queue insertions and removals, and queue statistics

The Warehouse Proxy agent also provides historical summarized workspaces. Open these workspaces from the Enterprise Navigator item. You must be collecting historical data on the warehouse proxy agent attribute groups to use the summarized workspaces.

## Summarization and Pruning agent workspaces



© Copyright IBM Corporation 2013

36

### Summarization and Pruning agent workspaces

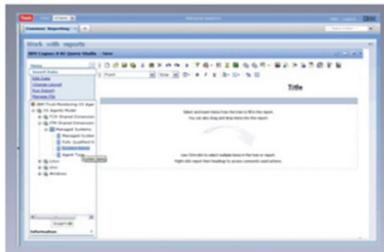
The Summarization and pruning agent has five workspaces:

- **Summarization and Pruning**: Connectivity status and errors
- **Configuration**: Agent, scheduling, and log information
- **Connectivity**: Portal server and database connectivity status
- **Statistics**: Run length and errors
- **Work Completed**: The number of rows and tables summarized and pruned

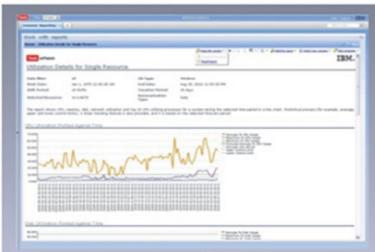
# Lesson 5. Using Tivoli Common Reporting

## Lesson 5: Using Tivoli Common Reporting (Jazz for Service Management Reporting Service)

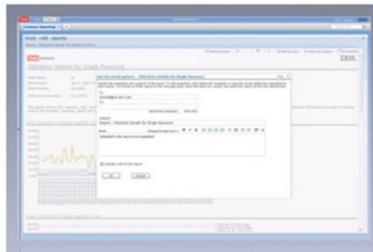
Tivoli Common Reporting offers access to Cognos report tools and functions that provide the following features:



Customized reports through a drag-and-drop web-based editor.



Single user interface for all report formats, which means common scheduling, security, and administration.



Reports by email or for later viewing.  
Output in HTML, PDF, Excel, XML, or CSV.

### What this lesson is about

This lesson introduces Tivoli Common Reporting (TCR), which is the reporting service for Jazz for Service Management. You see how to access and run product-provided reports to show key performance indicators over time.

### What you should be able to do

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

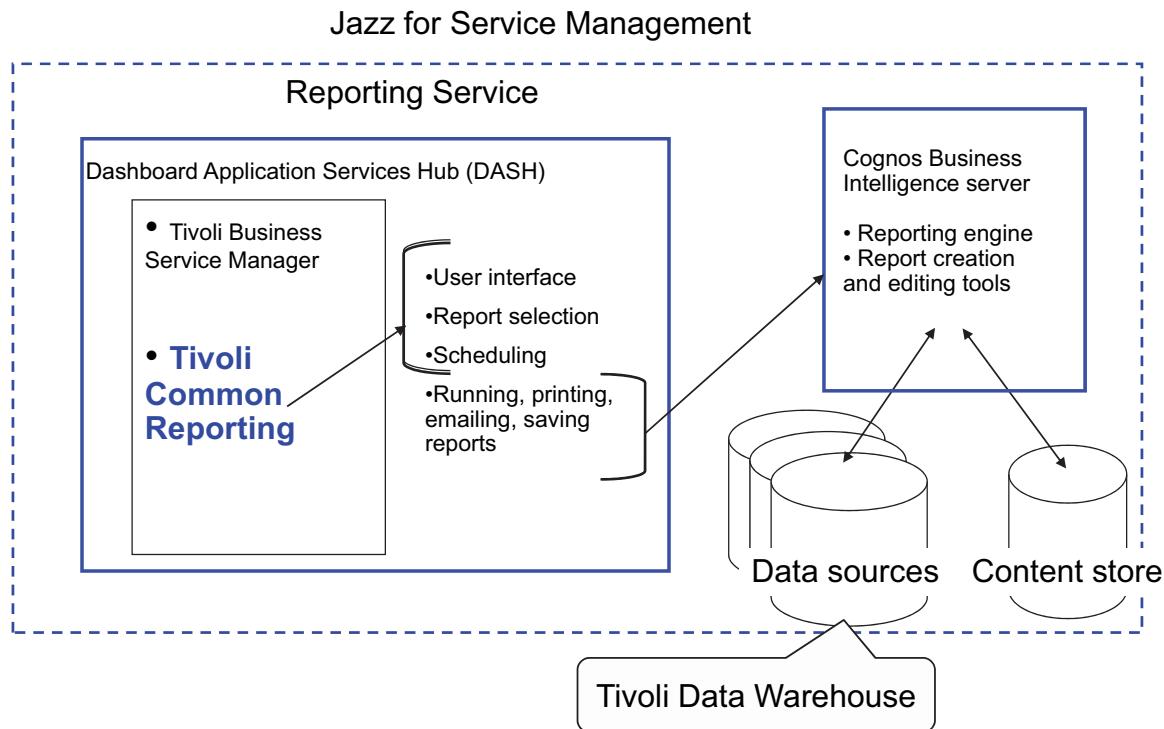
- Access product-provided reports in Tivoli Common Reporting.
- Run and manage reports.
- Describe the Cognos data model.

Cognos reporting is part of the IBM Cognos Business Intelligence suite of products, and Tivoli Common Reporting includes several of the Cognos report authoring and visualization tools at no charge.

IBM Tivoli Monitoring 6.3 provides ready-to-use reports that let you visualize key performance indicators, metrics, and trends. No programming or SQL is needed to implement and use these reports. You only have to be collecting the data that the reports require.

You can also create your own reports with the Cognos reporting tools that Tivoli Common Reporting includes. These reporting tools use the drag-and-drop method where you build the structure of the report by using predefined objects, and then dragging attributes from a data model into the report.

## Components of Tivoli Common Reporting, simplified view



© Copyright IBM Corporation 2013

38

Components of Tivoli Common Reporting (simplified view)

There are three major components of the reporting service: the user interface, the Tivoli Common Reporting portlet, and a Cognos Business Intelligence server.

The Dashboard Application Services Hub is an instance of WebSphere Application Server. DASH provides the reporting service with a high-level user interface, user access control, and other management functions. Other Tivoli products such as Tivoli Business Service Manager also provide portlets that you access through the DASH user interface.

The Tivoli Common Reporting portlet provides the user with access to Cognos or BIRT reports. It acts as a front end to the Cognos functions of running, printing, e-mailing, or saving reports.

The Cognos Business Intelligence server itself provides a reporting engine, and report creation and editing tools. The Cognos engine accesses data that is stored in external databases, and stores report definitions in its contents store.

# IBM Tivoli Monitoring OS Agents reports

## Availability

[Availability Heat Chart for Single Resource](#)  
[IBM i Availability Heat Chart for Single Resource](#)  
[IBM i Resource Availability Comparison](#)  
[IBM i Top Resources by Availability](#)  
[IBM i Top Resources by Availability \(MTTR-MTBSI\)](#)  
[Resource Availability Comparison](#)  
[Top Resources by Availability](#)  
[Top Resources by Availability \(MTTR-MTBSI\)](#)

## Utilization

[CPU Utilization Comparison for Multiple Resources](#)  
[CPU Utilization for Single Resource](#)  
[Disk Utilization Comparison for Multiple Resources](#)  
[Disk Utilization for Single Resource](#)  
[Enterprise Daily Utilization Heat Chart](#)  
[Enterprise Resources List](#)  
[Enterprise Summary](#)  
[IBM i CPU Utilization Comparison for Multiple Resources](#)  
[IBM i CPU Utilization for Single Resource](#)  
[IBM i Disk Utilization Comparison for Multiple Resources](#)  
[IBM i Disk Utilization for Single Resource](#)  
[IBM i Enterprise Daily Utilization Heat Chart](#)  
[IBM i Enterprise Summary](#)  
[IBM i Temporary Storage Utilization for Multiple Resources](#)  
[IBM i Temporary Storage Utilization for Single Resource](#)

© Copyright IBM Corporation 2013

39

*IBM Tivoli Monitoring OS Agents reports*

## Required database tables

- Windows agent:
  - Logical\_Disk
  - Memory
  - Process
  - Server
  - System
  - Computer Information, daily
- Linux agent:
  - CPU
  - Disk
  - Network
  - Process
  - VM\_Stats
  - Linux IP Address, daily
- UNIX agent:
  - Disk
  - Network
  - Process
  - System
  - Memory
  - UNIX IP Address, daily
- KSY SUMMARIZATION CONFIG
- Status\_History (CCC Logs)
- ManagedSystems (\*)
- Time Dimensions (\*)

(\*) created by the user

© Copyright IBM Corporation 2013

40

### Required database tables

The reports require that certain attribute groups are present in the data warehouse.

The ManagedSystems and Time Dimensions tables are created as part of the report package installation. You can create them manually or you can configure the summarization and pruning agent to create and maintain them automatically.

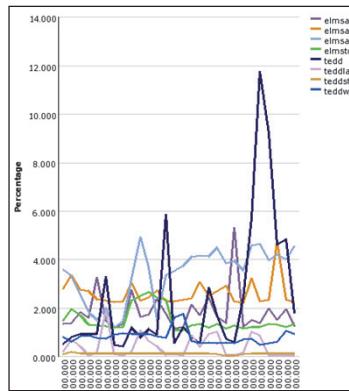
## Tivoli Monitoring Report examples

Daily statistics for Windows Servers				
Windows processor, memory, disk				
System Name	Date	Average % Total Processor Time	Average Memory Usage Percentage	Logical Disk Average % Used
fortuna	Jul 19, 2010	10	8	26
fortuna	Jul 20, 2010	10	8	16
itmserver	Jul 18, 2010	1	73	59
itmserver	Jul 19, 2010	2	68	59
itmserver	Jul 20, 2010	1	63	55
jarsoftday	Jul 19, 2010	1	10	19
jarsoftday	Jul 20, 2010	2	10	19
tempus	Jul 19, 2010	1	23	44
tempus	Jul 20, 2010	1	23	48
vapor	Jul 19, 2010	0	14	48
vapor	Jul 20, 2010	0	15	53
<b>Summary</b>		<b>3</b>	<b>29</b>	<b>44</b>

Daily average disk utilization per hour												
Server/Hour	0	1	2	3	4	5	6	7	8	9	10	11
elmsapp1	49.18%	49.18%	49.18%	49.18%	49.18%	49.18%	49.18%	49.18%	49.18%	49.18%	49.18%	49.18%
elmsapp2	46.31%	46.31%	46.31%	46.31%	46.31%	46.31%	46.31%	46.31%	46.31%	46.31%	46.31%	46.31%
elmsapp3	51.49%	51.49%	51.49%	51.49%	51.49%	51.49%	51.49%	51.49%	51.49%	51.49%	51.49%	51.49%
elmstore	33.62%	33.62%	33.67%	33.62%	33.61%	33.61%	33.61%	33.61%	33.61%	33.61%	33.61%	33.61%
tedd	69.24%	69.24%	69.24%	69.24%	69.24%	69.24%	69.24%	69.24%	69.24%	69.24%	69.24%	69.24%
teddlab	57.19%	57.19%	57.19%	57.19%	57.19%	57.19%	57.19%	57.19%	57.19%	57.19%	57.19%	57.19%
teddstore	1.32%	1.32%	1.32%	1.32%	1.32%	1.32%	1.32%	1.32%	1.32%	1.32%	1.32%	1.32%
teddweb	32.64%	32.64%	32.65%	32.65%	32.57%	32.58%	32.59%	32.60%	32.60%	32.60%	32.60%	32.60%

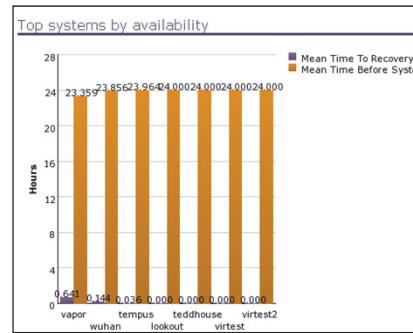
Daily average memory utilization per hour												
Server/Hour	0	1	2	3	4	5	6	7	8	9	10	11
elmsapp1	37.00%	37.00%	37.00%	37.00%	37.00%	37.00%	37.50%	38.00%	38.00%	38.00%	38.00%	38.00%
elmsapp2	56.00%	56.00%	56.00%	56.00%	56.00%	56.00%	56.00%	56.00%	56.00%	56.00%	56.00%	56.00%
elmsapp3	46.00%	46.00%	46.00%	46.00%	46.00%	46.00%	46.00%	46.00%	46.00%	46.00%	46.00%	46.00%
elmstore	60.75%	59.25%	62.50%	53.00%	56.25%	56.00%	59.00%	60.50%	58.75%	61.00%	60.00%	57.75%

One-minute report (Query Studio)



CPU Utilization Comparison for Multiple Resources

Enterprise Daily Utilization Heat Chart



Top Systems by Availability

© Copyright IBM Corporation 2013

41

### Tivoli Monitoring Report examples

Here are several examples of typical Cognos reports. The upper left example is an ad hoc report that shows the daily statistics for Windows servers. It is called the 1-Minute report, and it literally can be built in 1 minute or less by using Query Studio.

The other reports are samples of the ready-to-use product-provided reports that are created with Report Studio.

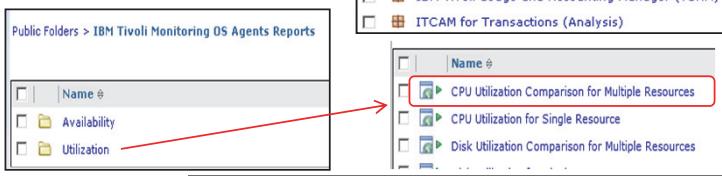
The report in the upper-right corner is an example of a Heat Chart. It uses colored cells at the intersection of the X, managed systems, and Y, time, axis to indicate hot spots or areas of high utilization or high activity.

## Running a report

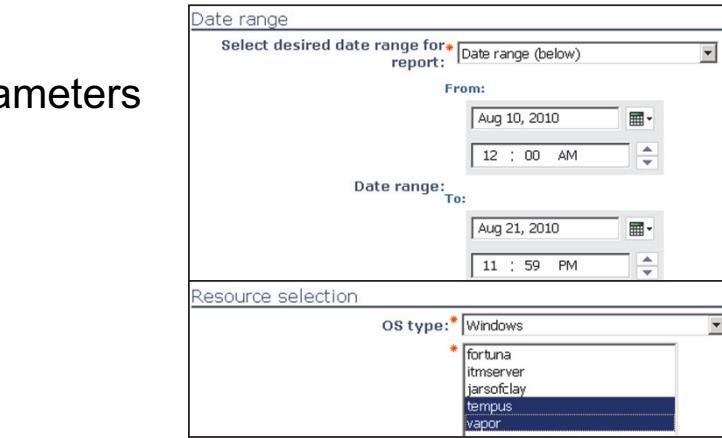
1. Select a report package.



2. Select the report.



3. Specify input parameters and click **Finish**.



© Copyright IBM Corporation 2013

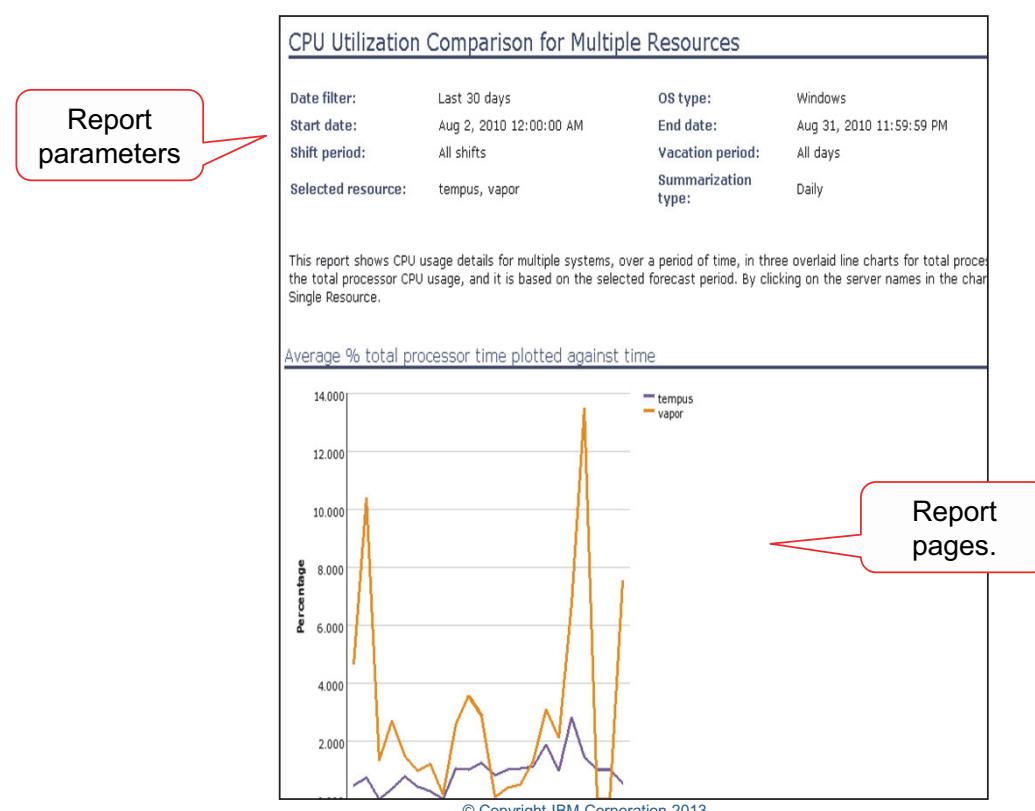
42

### Running a report

To run a report, you first select the report package, which opens to a list of report titles or folders of reports. Click the name of the report that you want to run. Most reports require some type of input parameters, and you are presented with a parameter selection window where you choose the date range for your report, and possibly other types of selection criteria.

Reports typically require that you provide parameters to limit the data and range in a report. In this example of a Tivoli Monitoring OS Agent report, you specify the date range, select the operating system type such as Windows, and then choose from a list of Windows servers. After you make the required selections, you click Finish, and the report runs.

## Report output



### Report output

This report compares processor utilization for multiple servers, plotted on a line chart. This page is a scrollable HTML file.

With these line charts, you can visualize the utilization details of the selected resources. You could use a report like this one to determine that some servers are lightly loaded and other servers are more heavily loaded, and you can identify candidates for load-balancing.

## Report actions

Name	Modified	Actions
CPU Utilization Comparison for Multiple Resources	January 24, 2013 5:35:18 PM	[Icons]
CPU Utilization for Single Resource	January 24, 2013 5:35:19 PM	[Icons]
Disk Utilization Comparison for Multiple Resources	January 24, 2013 5:35:20 PM	[Icons]
Disk Utilization for Single Resource	January 24, 2013 5:35:20 PM	[Icons]
Enterprise Daily Utilization Heat Chart	January 24, 2013 5:35:21 PM	[Icons]
Enterprise Resources List	January 24, 2013 5:35:21 PM	[Icons]
Enterprise Summary	January 24, 2013 5:35:22 PM	[Icons]
IBM i CPU Utilization Comparison for Multiple Resources	January 24, 2013 5:34:40 PM	[Icons]
IBM i CPU Utilization for Single Resource	January 24, 2013 5:34:41 PM	[Icons]
IBM i Disk Utilization Comparison for Multiple Resources	January 24, 2013 5:34:42 PM	[Icons]
IBM i Disk Utilization for Single Resource	January 24, 2013 5:34:43 PM	[Icons]
IBM i Enterprise Daily Utilization Heat Chart	January 24, 2013 5:34:44 PM	[Icons]
IBM i Enterprise Summary	January 24, 2013 5:34:45 PM	[Icons]
IBM i Temporary Storage Utilization for Multiple Resources	January 24, 2013 5:34:46 PM	[Icons]

### Actions:

- Set properties
- Run with options
- Open with Report Studio
- Open in a workspace
- Create a report view
- Schedule the report

Position mouse pointer over icon to see the function.

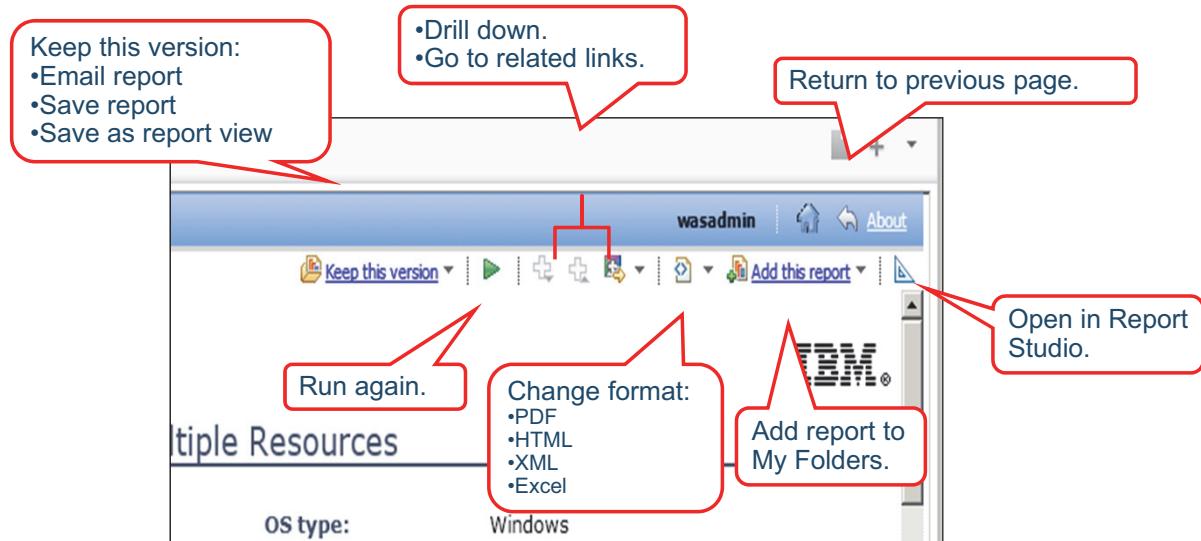
### Report actions

The term *report* can refer to the specification that defines information to include in a report, or the report itself. The items in the name list on the left are report definitions.

You click the report name to run it with the default options. If the report has parameters, such as resource type or date range, it prompts you to provide them. Other actions that you can take include setting report properties such as the national language. You can change the report name and manage run history. You can add a screen tip that is seen when you hold the mouse pointer over the report name.

You do not need to memorize the icons. Hold the mouse pointer over the icons to show the function.

## Report management



© Copyright IBM Corporation 2013

45

### Report management

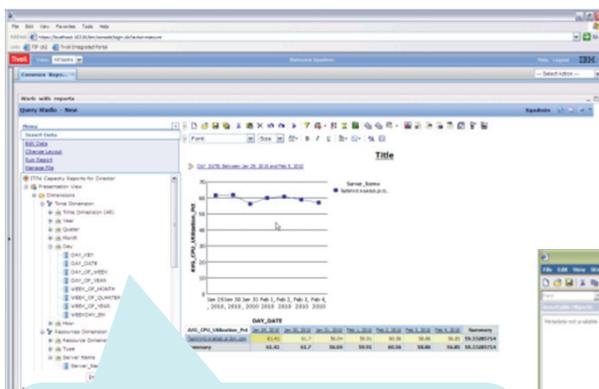
After you run the report, you have several options to manage the report instance. This slide lists several of these options. The screen capture is magnified to show the details better.

If you click the Keep this version link, you can choose to e-mail the report, save it, or save it as a report view. You can start over by clicking the green Run again triangle. You can change the report format without rerunning it by clicking the Change Format icon and choosing a different format. This action does not rerun the report; it simply switches the format.

If the report has Drill UP and Drill Down links, you can traverse those links by clicking the up and down plus signs. You can save the report in your personal folder by clicking Add This Report. If you created multiple folders, you can choose the folder from a list.

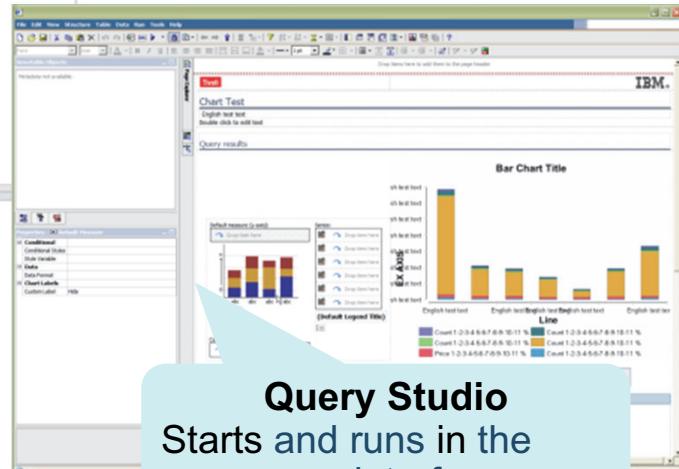
If you decide not to take any of the actions to save the report, you can discard the item by clicking the Return to Previous Page arrow. The report instance is discarded and is no longer accessible.

## Report designing and creation tools



### Report Studio

- Starts from the user interface or in context from a report.
- Opens in a new browser.



**Query Studio**  
Starts and runs in the same user interface.

© Copyright IBM Corporation 2013

46

### Report designing and creation tools

Tivoli Common Reporting provides access to Cognos Connections and two key report creation tools: Query Studio and Report Studio. You can use these tools to create your own reports that are based on a Cognos data model that is included with the IBM Tivoli Monitoring reports.

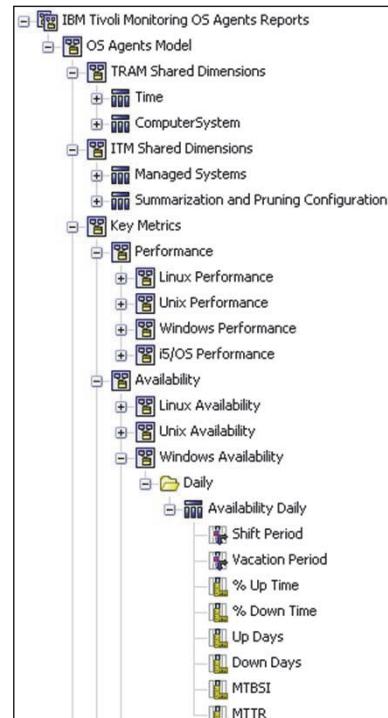
Query Studio, which is seen on the left, is suitable for ad hoc or casual reports that end users can create. With little training, end users can enjoy self-service reporting without requiring participation by Business Intelligence analysts. These reports can include one table and one chart. You can add filtering to a Query Studio report to provide time ranges or resource selection.

Report Studio is used to create sophisticated, multilayer reports. You can launch it directly from the report viewer so that you can change the report definition in context. Report Studio runs in a separate browser window so it does not interfere with Tivoli Common Reporting. You can run other reports while Report Studio is open in its own window.

Tivoli Common Reporting version 3.1 also provides Workspaces, which you use to create new reports by combining objects from existing reports or entire reports. You can easily combine reports from different products to create cross-product reporting.

## Cognos data model

- Source of the drag-and-drop report creation
- Business view of database tables
- Abstraction of complex relationships and content
- Computed attributes, filters, shortcuts
- Multiple options for securing reports
- Model that is created and maintained by using Framework Manager, requires Windows OS



Query model

© Copyright IBM Corporation 2013

47

### Cognos data model

The data model defines relationships among multiple tables that are based on shared key values, and it can also include computed attributes and built-in filters and functions. You can build report security into the data model. Data models are created and maintained by using Cognos Framework Manager. Be sure to note that Framework Manager runs only on Windows operating systems currently.

This example shows the IBM Tivoli Monitoring data model. It is composed of folders and tables. The TRAM Shared Dimensions level contains time identifiers that can be used to perform SQL joins across multiple tables. Remember that you do not have to write the SQL because the Cognos report engine generates and optimizes the required queries to the database. The queries are based on the objects that the report contains.

## Student exercises



© Copyright IBM Corporation 2013

48

### *Student exercises*

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

# Review questions

1. Which type of data is collected for historical reporting?
2. Can you configure summarization and pruning differently on different servers, for an attribute group?
3. What is a way to distribute multiple historical configuration settings at one time?

## Review answers

1. Which type of data is collected for historical reporting?

*Monitoring data, such as utilization, performance, and availability, is collected.*

2. Can you configure summarization and pruning differently on different servers, for an attribute group?

*No. Summarization and pruning work at the attribute group level, not the individual managed system level.*

3. What is a way to distribute multiple historical configuration settings at one time?

*Create a group by selecting multiple settings. Then, distribute the group to one or more managed systems.*

## Summary

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

- Describe the historical data collection procedure.
- Configure historical data collection.
- Distribute historical data collection settings to managed systems.
- View historical data in workspaces.
- Describe historical data collection self-monitoring workspaces.
- Use Tivoli Common Reporting to view summarized historical data in report.



## 9 Managing user security and publishing workspaces



## 9 Managing user security and publishing workspaces



All files and material for this course (TM023, IBM Tivoli Monitoring 6.3 Fundamentals) are IBM copyright property covered by the following copyright notice. © Copyright IBM Corporation 2013  
US Government Users Restricted Rights: Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.  
Course materials may not be reproduced in whole or in part without the prior written permission of IBM.

**What this unit is about**

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

**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:

- Explain how IBM Tivoli Monitoring works with other security products for user authentication.
- Use the portal client to create, delete, and customize user accounts and groups.
- Change permissions for monitoring agents and Navigator views.
- Use the Workspace Administration mode to publish workspaces that are available for other users.

# Lesson 1. Managing Tivoli Enterprise Portal users and user groups

## Lesson 1: Managing Tivoli Enterprise Portal users and user groups

- Most of the features you used so far specify the information that your users see and how they access it.
- You defined workspaces and views to show information. You created Navigator views to structure the enterprise. You generated links to provide default navigation. This work all belongs to your user ID only.
- In this unit, you tie all those areas together and determine the components and functions that each user can access.

### What this lesson is about

At the beginning of this course, you had two types of users with different requirements. You set up the different Navigators, workspaces, links, and queries. Now you are ready to assign users to the different areas of interest and provide them with access to portal client functions.

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

- Describe security in IBM Tivoli Monitoring
- Access the User Editor.
- Create users and groups, and assign users to groups.

### What you should be able to do

## Security in IBM Tivoli Monitoring

- The hub Tivoli Enterprise Monitoring Server controls user authentication.
- Security configuration choices are
  - Security: Validate User, password authentication on or off
  - Lightweight Directory Access Protocol (LDAP) Security: Validate User with LDAP
    - Microsoft Active Directory
    - IBM Tivoli Directory Services



Security in IBM Tivoli Monitoring

4

Security in IBM Tivoli Monitoring provides flexibility in how much or how little security you implement in your solution. Authentication by an external LDAP registry is not supported for a hub monitoring server on z/OS. If the hub monitoring server is running on z/OS, you must configure your security authorization facility (SAF) product to authenticate Tivoli Enterprise Portal users.

## Implications of security choices

- If password authentication is turned off, users are not defined outside IBM Tivoli Monitoring.
- If password authentication is turned on, users must be defined where the authentication occurs, including *sysadmin*, the default user ID.
  - In the local operating system of the hub monitoring server
    - Windows User Accounts
    - Password file on the UNIX system
    - Host security system on the z/OS system
  - In the appropriate LDAP environment
    - IBM Tivoli Directory Services
    - Microsoft Active Directory
- User ID rules
  - Up to 10 characters, 8 characters for z/OS user IDs
  - No spaces
- Group ID rules
  - Up to 31 characters
  - No spaces

© Copyright IBM Corporation 2013

5

### *Implications of security choices*

The type of security you select affects where to define the users and where to check the passwords.

## Users and user groups

- You can place users into user groups.
- With user groups, you can administer many different users from a single place.
- User groups can contain other user groups. Nested groups inherit the attributes of the parent.
- Users can be in multiple groups.
  - When these groups have different permissions, the most permissive rule applies.
  - The user can access the logical union of group permissions.
- Although LDAP supports groups, no connection exists between user groups in Tivoli Monitoring and groups in LDAP. LDAP support provides password authentication only.

© Copyright IBM Corporation 2013

6

### Users and user groups

*Managing users* means maintaining user IDs in the portal client. The Tivoli Enterprise Portal Server database stores user data. You can add, copy, and remove users and specify what users can see and do.

The portal server database stores user IDs, but not the passwords. If password security is enabled at the hub server, login requires a password

User validation occurs in one of two environments:

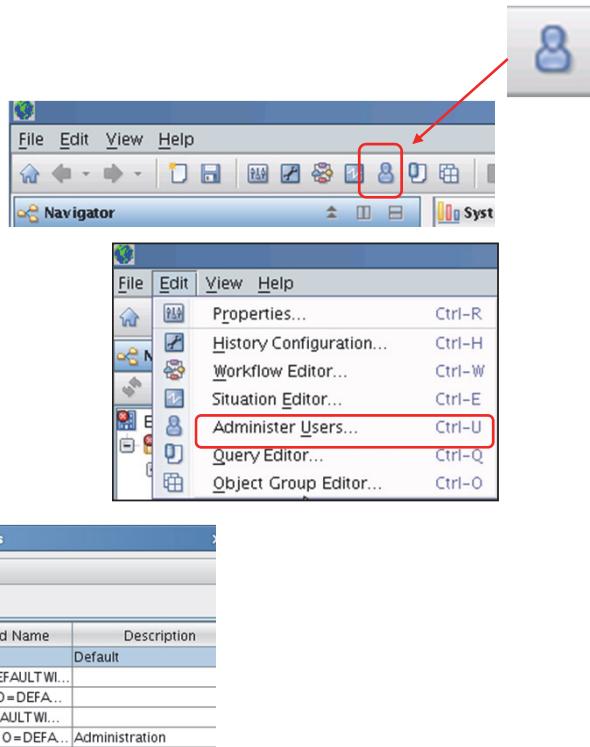
- The operating system where the hub monitor system runs
- A Lightweight Directory Access Protocol (LDAP) server

With user groups, you can have many users with the same set of permissions, which facilitates user administration.

## Accessing the Administer Users editor

You have three options to open the Administer Users editor:

- Click the toolbar icon.
- Click **Edit > Administer Users**.
- Press **Ctrl+U**.



© Copyright IBM Corporation 2013

7

### Accessing the Administer Users editor

You can open the Administer Users editor only if your user ID has **Create** or **Modify** user authority. Otherwise, the buttons are unavailable and the menu options are hidden.

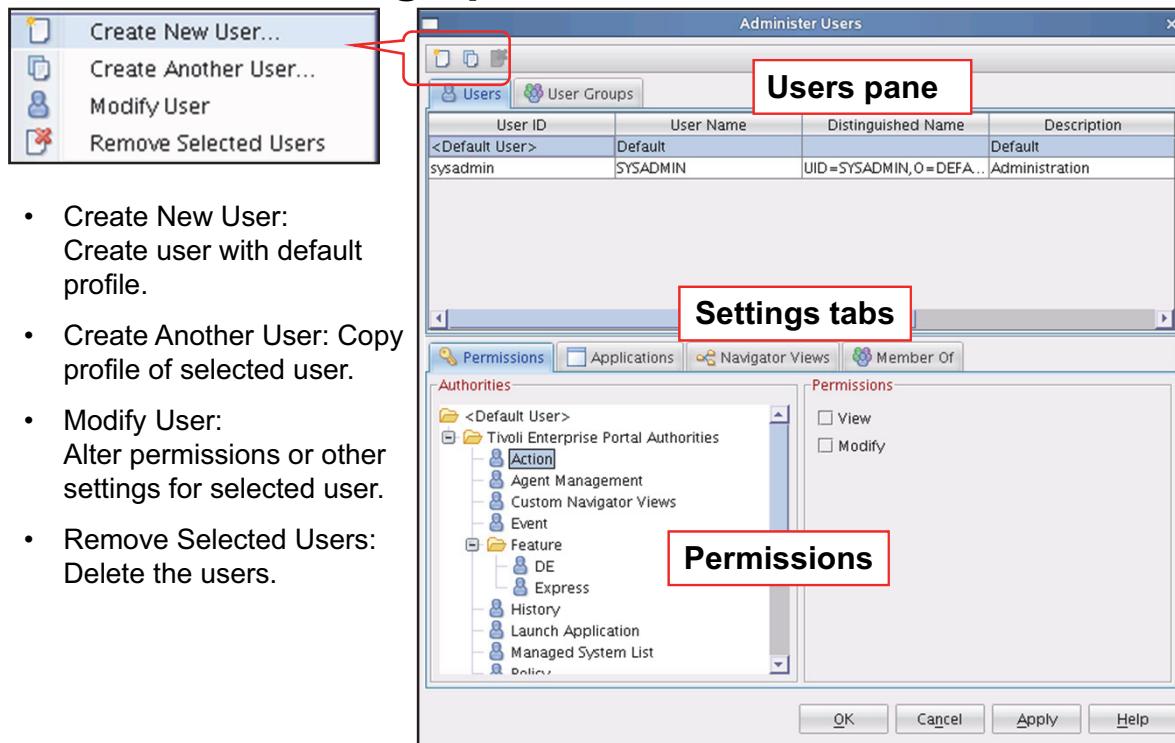
The **Users** tab defines the following items:

- Permissions to execute certain functions and use portal server features
- Access to specific applications (monitors)
- Access to specific Navigator views in the enterprise
- Group membership

The **User Groups** tab defines the following items:

- Permissions to access certain functions and use portal server features
- Access to specific applications (monitors)
- Access to specific Navigator views in the enterprise
- Group membership

## Editor and editing options



© Copyright IBM Corporation 2013

8

### Editor and editing options

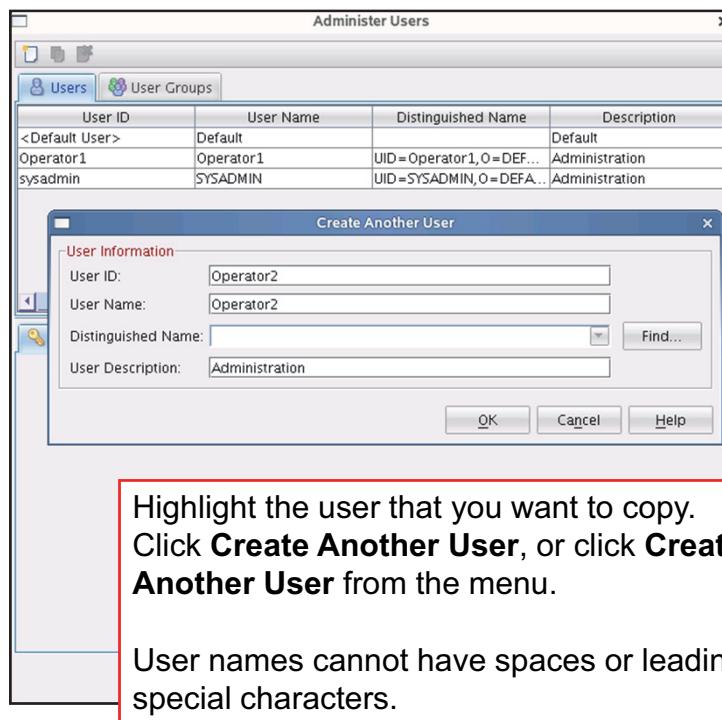
Two default entries are available in the Administer Users editor when you open it for the first time:

- The <Default User> is a template that you can modify and use to create other users with specific permissions and settings.
- During application installation, an administrator user ID is added to the portal server database. The default user ID is SYSADMIN, and it has full permissions and access to all applications.

To modify users or to copy them, select one or more users while holding down the **Shift** or **Ctrl** key. When you select more than one user, the details pane is empty.

You cannot remove either your own entry or the <Default User> profile. You also cannot change your own user permissions. Another administrator must perform this action. Changes take effect when users log on to the portal client with a new client session.

## Creating another user



© Copyright IBM Corporation 2013

9

### Creating another user

In this example, a user ID called **Operator2** is created.

Log in to the portal client with the appropriate user ID.

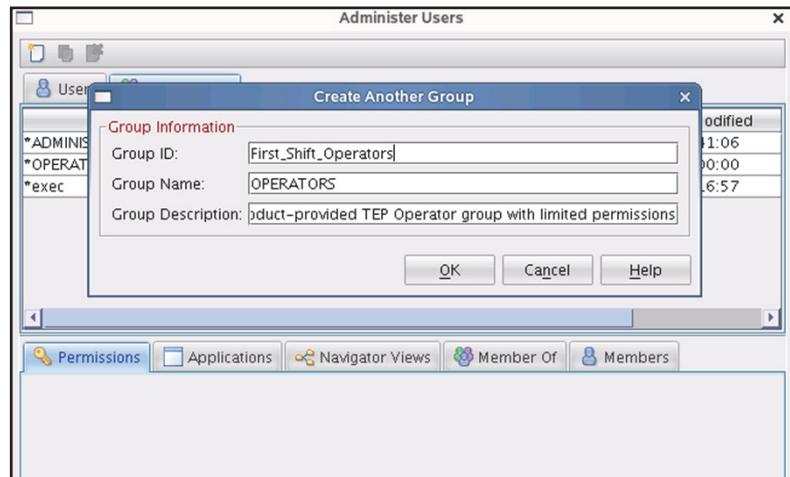
If security is not set, the portal server needs to recognize only the user ID. It does not check the password.

If the security is set at the hub monitoring server, the operating system at that hub must have the user ID defined. Also, the password must match the one defined with that user ID.

To grant specific permissions to the user, highlight the user ID and select the **Permissions** tab in the details pane. If you need help with the specific permissions, press **F1** to open the online help for full information about the permissions.

## Creating groups

- Create New Group
- Create Another Group
- Modify Group
- Remove Selected Groups



© Copyright IBM Corporation 2013

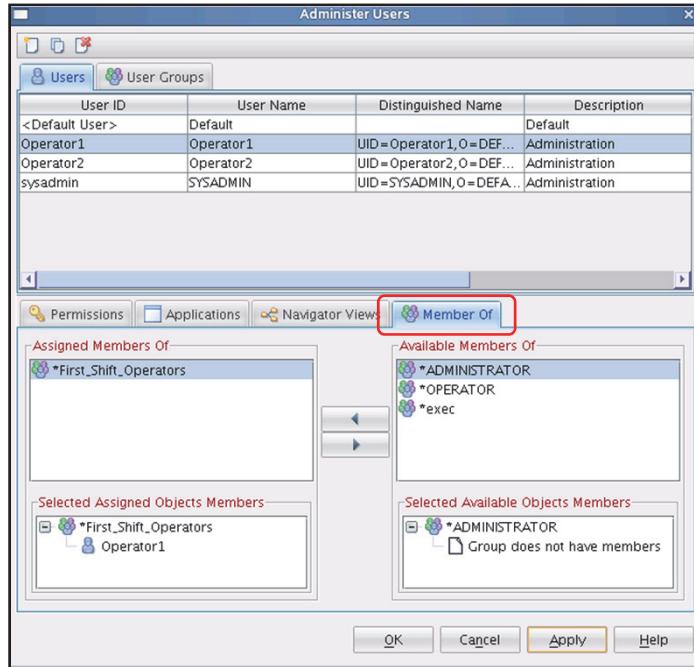
10

### *Creating groups*

Create groups the same way you create users.

## Defining group membership: Member Of

From the **Member Of** tab, you can add the group as a child of another group.



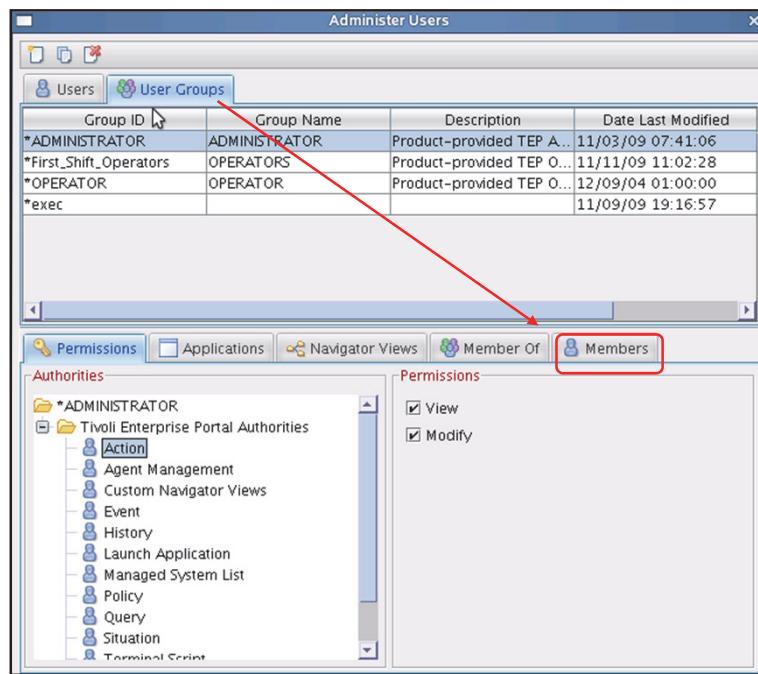
© Copyright IBM Corporation 2013

11

Defining group membership: Member Of

## Defining group membership: Members

Use the **Members** tab to add groups or users as members of this group.



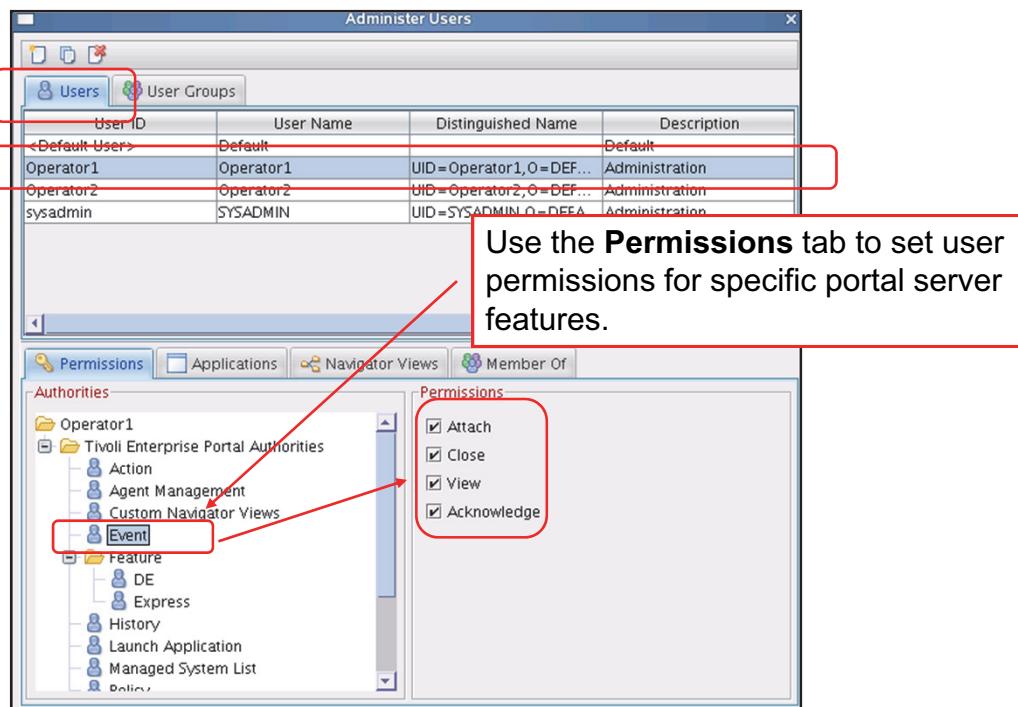
© Copyright IBM Corporation 2013

12

Defining group membership: Members

# Lesson 2. Setting user permissions and assigning applications and Navigator views

## Lesson 2: Setting user permissions and assigning applications and Navigator views



*Granting user permissions*

### What this lesson is about

This lesson shows you how to set up user permissions and assign applications and Navigator items to users and groups.

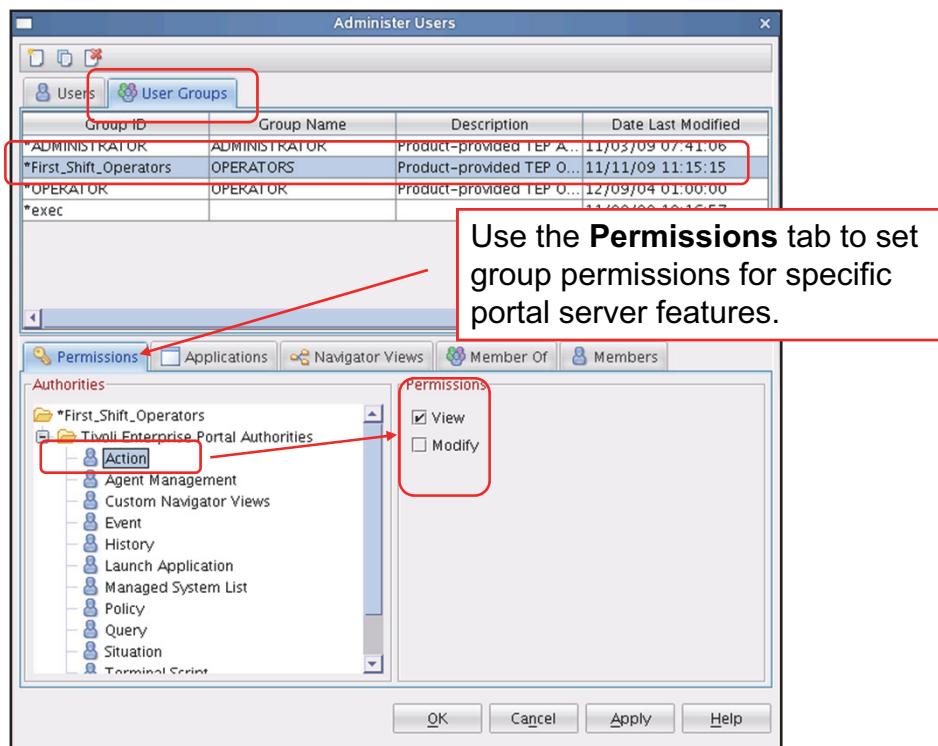
**What you should be able to do**

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

- Properly set permissions for users and groups to control user actions.
- Assign applications to users and groups to control the managed systems they can access.
- Assign Navigator items to users and groups to control which parts of the enterprise monitoring environment they can see.

Child groups inherit permissions from the Parent group.

## Granting group permissions



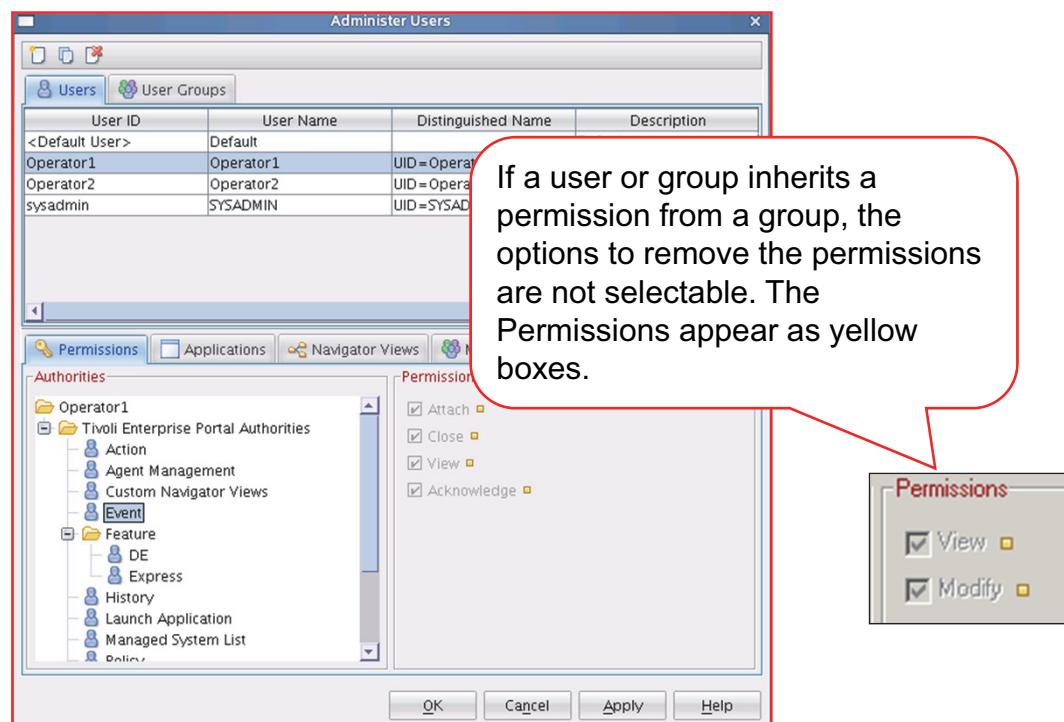
© Copyright IBM Corporation 2013

14

### Granting group permissions

Granting group permissions is like granting user permissions. Some permissions are additive, that is, Modify permission automatically includes View permission.

## Permissions that are inherited from parent group



© Copyright IBM Corporation 2013

15

*Permissions that are inherited from parent group*

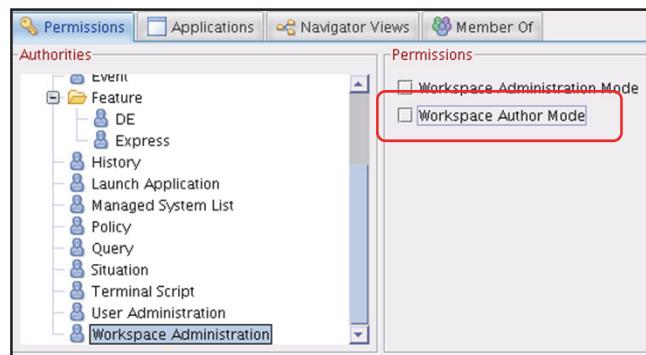
The child inherits all permissions, whether it is a group or a user.



**Note:** If a user is in multiple groups, the user inherits the logical union of the permissions from the groups, sometimes referred to as the most permissive rule.

## Permissions: Workspace Author Mode

You can determine whether users can generate or modify workspaces by enabling Workspace Author Mode in the Workspace Administration authority.



If disabled, a user cannot modify workspaces, no view tool icons.



### Permissions: Workspace Author Mode

The **Workspace Author Mode** grants users the permission to modify their workspaces and views.

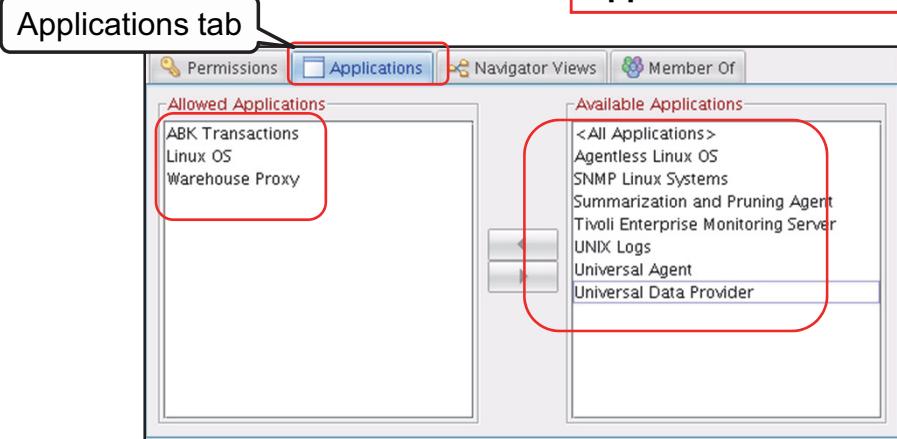
When you clear **Workspace Author Mode**, users cannot perform the following actions:

- Edit workspaces
- Edit views
- Create workspaces
- Create views
- Assign queries
- Create links
- Customize views

## Assigning applications

A user can access only applications, or agent types, that are assigned to the user ID.

Assign specific applications or <All Applications> to the user ID.



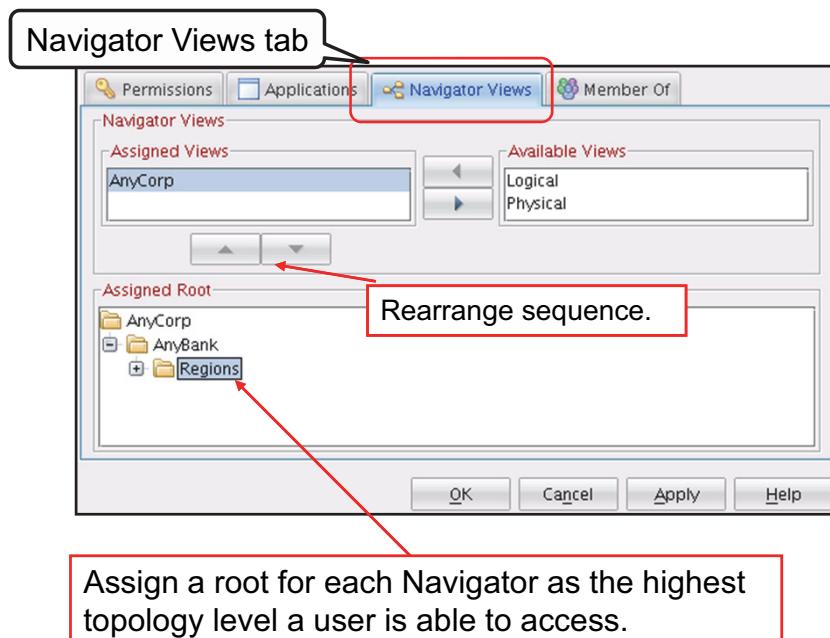
You must unassign <All Applications> before you can add specific ones.

### Assigning applications

You must first remove the <All Applications> entry before you can assign specific applications to the user ID. If you have permissions to modify Navigator views, you automatically have access to all managed systems in your enterprise. The **Available Applications** pane shows all applications that are enabled with the hub Tivoli Enterprise Monitoring Server.

## Assigning Navigator views

Assign the Navigator views that you allow the user to access.



© Copyright IBM Corporation 2013

18

### Assigning Navigator views

By now you might wonder how different users see different Navigator views when they log in to the portal client.

A previous unit described how to create Navigator views ([Unit 6, “Visualizing monitoring data,”](#) on page 247). You also learned that users, other than your own user ID, must be assigned to custom Navigator views specifically, as shown on the slide.

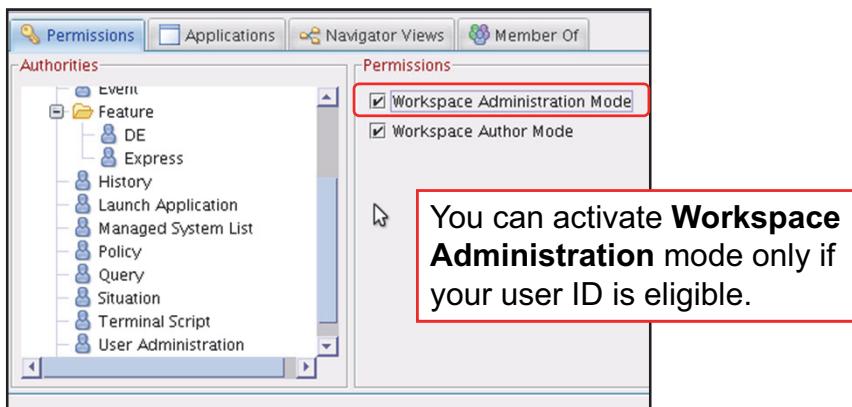
To add or remove Navigator views for specific user IDs, highlight the user. Assign or unassign available Navigators by using the left and right arrow.

The first Navigator in the **Assigned Views** list becomes the default Navigator when the user logs in. By default, the user sees the complete Navigator with all its Navigator items. You can limit that access to a sublevel of the Navigator by highlighting the Navigator view you want to modify. Then, select the item that is intended for the user as **Root**. This item replaces the Enterprise entry in the Navigator view, and the user cannot access any items in a higher level of the hierarchy.

# Lesson 3. Publishing workspaces

## Lesson 3: Publishing workspaces

- Workspaces and views depend on user ID.
- For all new Navigators items, an administrator should create workspaces as the default, particularly if users cannot modify their own workspaces.
- Activate the **Workspace Administration Mode** and save the workspaces to publish them as default workspaces.



© Copyright IBM Corporation 2013

19

Workspace Administration mode

### What this lesson is about

This lesson shows you how to publish workspaces so that users can access them.

### What you should be able to do

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

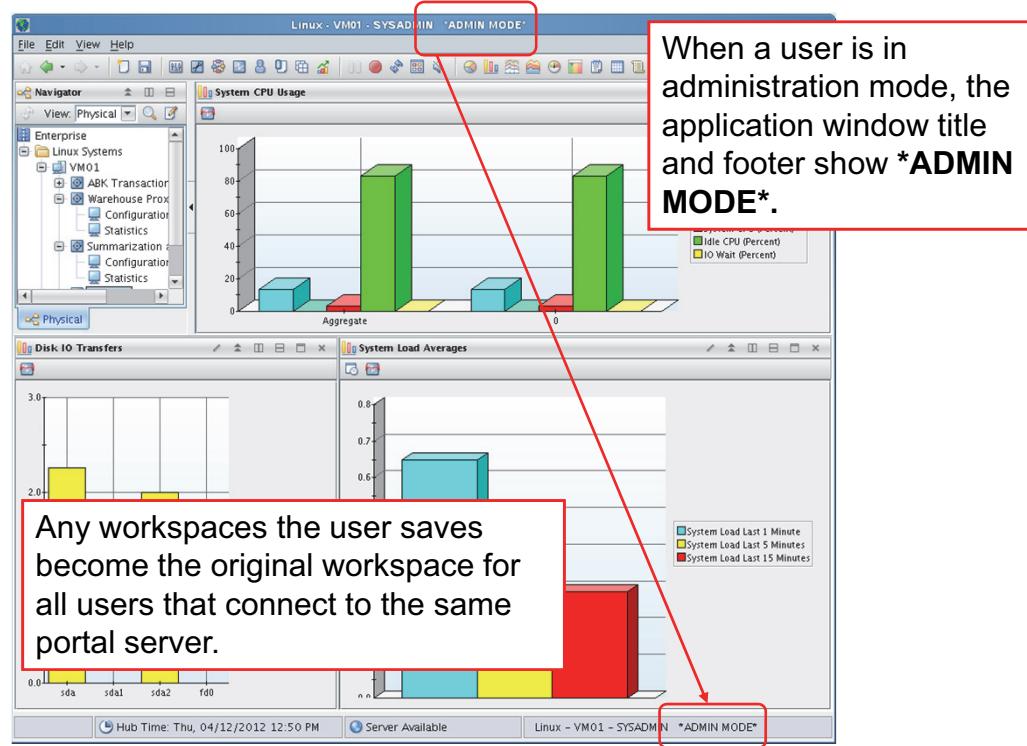
- Describe the procedure of publishing workspaces.
- Use Workspace Administration mode to publish workspaces.
- Resume original workspaces.

All users with workspace author mode permissions can modify their workspaces. As an administrator, you must create workspaces for all users who cannot create their own workspaces.

Also, you must create workspaces for all Navigator items in new Navigators. Make those workspaces available to all users by using the administration mode.

When you save a workspace in administration mode, the workspace is saved as an original workspace, meaning that users cannot change it. Any changes that users make apply only to their user IDs and overlay the original workspace. The original workspace is available when users want to restore the workspace that the administrator provides.

## Workspace Administration Mode indicator



© Copyright IBM Corporation 2013

20

### Workspace Administration Mode indicator

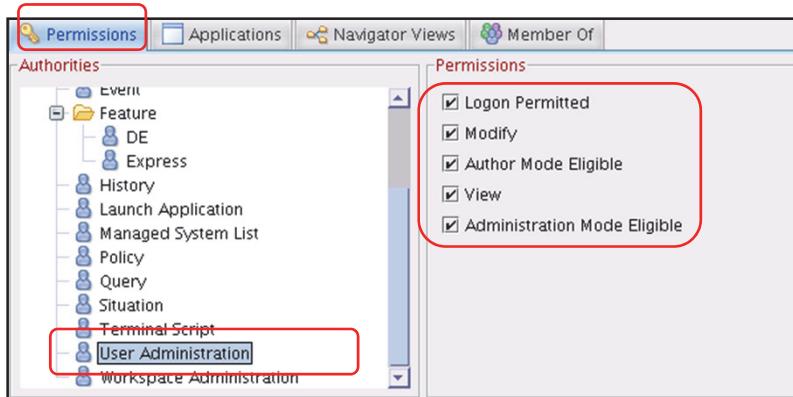
After workspace administration mode is activated, **\*ADMIN MODE\*** displays in the header and the footer of the application window.

Any changes the user makes to a workspace, such as rearranging views, modifying views, and creating links are saved as the default workspace. This workspace is called the **original workspace** for all users.

## Workspace Author Mode and Workspace Administration Mode eligibility

Putting a user ID into Workspace Administration Mode can have irreversible consequences.

- You might set this mode accidentally when working with the Administer Users editor.
- User IDs are defined as either **Author Mode Eligible** or **Administration Mode Eligible**.



To work in Workspace Administration mode, a user ID must have **Administration Mode Eligible** selected.

© Copyright IBM Corporation 2013

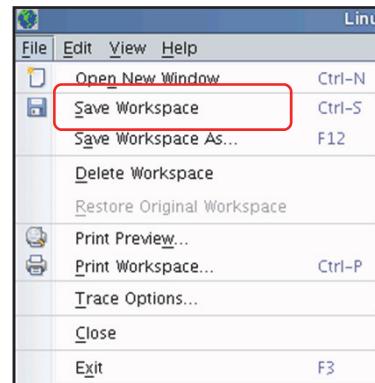
21

*Workspace author mode and workspace administration mode eligibility*

A user who enters workspace administration mode would override the original workspaces every time they change the workspace. To prevent accidental entry, you can decide whether a user is **Administration Mode Eligible**. You can change this setting at any time.

## Publishing workspaces

1. Select the workspace that you want to make available as an original workspace.
2. Activate Workspace Administration Mode.
3. Save the workspace.
4. Deactivate Workspace Administration Mode.
5. Switch to another workspace for publishing and repeat Steps 2, 3, and 4.



© Copyright IBM Corporation 2013

22

### *Publishing workspaces*

Follow these steps to publish original workspace for other users:

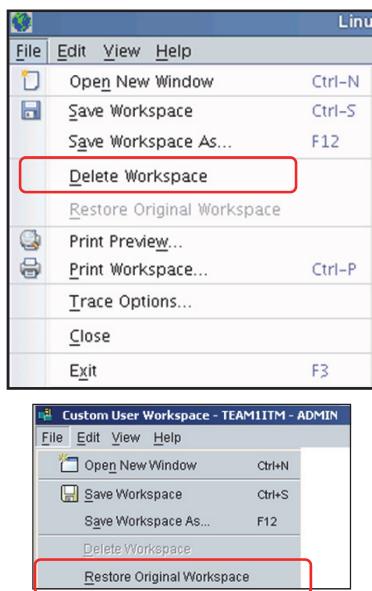
1. Create the workspace under your user ID the way you want to publish it. You can go back to the original workspaces if you are not fully satisfied with the changes, even after saving it.
2. Go directly to the Administer Users editor and activate workspace administration mode. Close the Administer Users editor.
3. Save the workspace, either under the same name, or as a new workspace.
4. Before switching to another workspace, deactivate workspace administration mode. Otherwise, you open the original workspace under that Navigator item and not the workspace that you customized under your user ID.
5. Repeat as necessary to publish more workspaces.



**Note:** You can use a line command, **editUser**, to switch the user ID in and out of workspace administration mode. Run this command in a terminal window to avoid having to open and close the Administer Users editor each time you publish a workspace.

## Resuming original workspace

If users change existing workspaces or save workspace changes under a new name, two options are available to undo the changes.



**Delete Workspace** deletes a workspace that a user saves under a new name.

**Restore Original Workspace** is for users that save personalized changes in an existing workspace. It restores an original workspace.

© Copyright IBM Corporation 2013

23

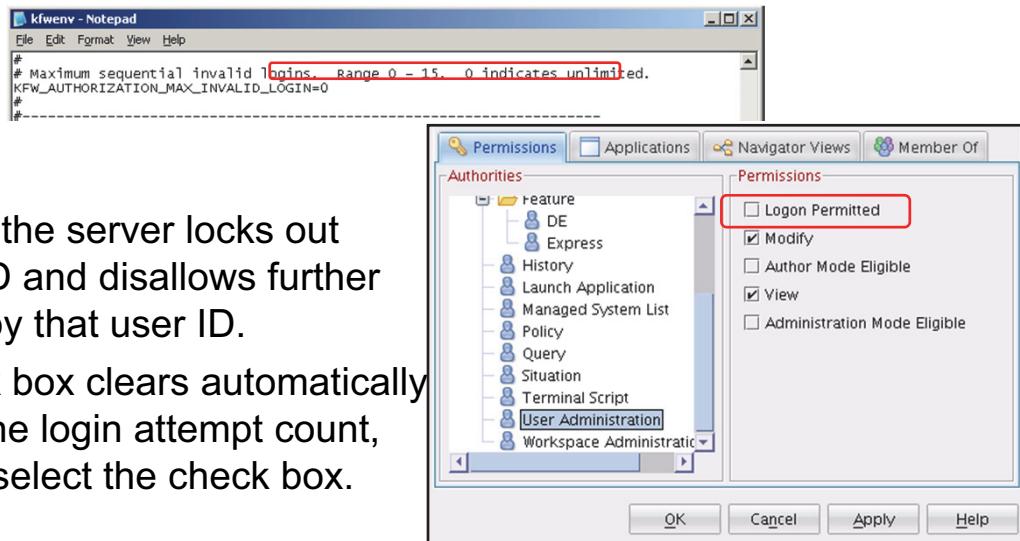
### Resuming original workspace

You can delete a workspace you create and restore the original version of a predefined workspace or one created by an administrator. If you edit a predefined workspace or one created in administration mode, you can always restore the original version.

Another way to restore workspaces is to take frequent backups of the portal server database. By restoring the database from a backup, you can restore workspaces to their content at the last database backup. Unfortunately, all information in the portal server database is restored along with the workspaces: queries, Navigators, links, group IDs, and user IDs.

## Disabling and enabling login

- You can configure the Tivoli Enterprise Portal Server to permit a maximum number of unsuccessful login attempts.



- After that, the server locks out the user ID and disallows further attempts by that user ID.
- The check box clears automatically. To reset the login attempt count, you must select the check box.

© Copyright IBM Corporation 2013

24

### Disabling and enabling login

If an administrator configures the portal server to track unsuccessful login attempts, a user can be locked out and unable to log back in to the portal client. An administrator must select the **Logon Permitted** check box for that user. The variable to specify the number of possible login attempts is **KFW\_AUTHORIZATION\_MAX\_INVALID\_LOGIN** in the **kfwenv** file.

On Linux or UNIX, the file is **Inxenv**.

## Student exercises



© Copyright IBM Corporation 2013

25

### *Student exercises*

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

## Review questions

1. If a user ID has individual permissions and group permissions, which permissions take precedence?
2. What is the default Navigator view for a new user ID?
3. How can you tell that your user ID is in workspace administration mode?
4. Where do you set the security choices?

## Review answers

1. If a user ID has individual permissions and group permissions, which permissions take precedence?

*The group permissions take precedence.*

2. What is the default Navigator view for a new user ID?

*There is no default Navigator view. A Navigator view must be assigned.*

3. How can you tell that your user ID is in workspace administration mode?

*You see \*ADMIN MODE\* in the application window header and footer.*

4. Where do you set the security choices?

*In the hub monitoring server*

## Summary

---

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

- Explain how IBM Tivoli Monitoring works with other security products for user authentication.
- Use the portal client to create, delete, and customize user accounts and groups.
- Change permissions for applications, monitoring agents, and Navigator views.
- Use the Workspace Administration mode to publish workspaces that are available for other users.

# More about Cloud & Smarter Infrastructure

You can find the latest information about IBM Cloud & Smarter Infrastructure education offerings online at the following location:

[www.ibm.com/software/tivoli/education/](http://www.ibm.com/software/tivoli/education/)

Also, if you have any questions about education offerings, send an email to the appropriate alias for your region:

- Americas: [tivamedu@us.ibm.com](mailto:tivamedu@us.ibm.com)
- Asia Pacific: [tivtrainingap@au1.ibm.com](mailto:tivtrainingap@au1.ibm.com)
- EMEA: [tived@uk.ibm.com](mailto:tived@uk.ibm.com)

## Cloud & Smarter Infrastructure user groups

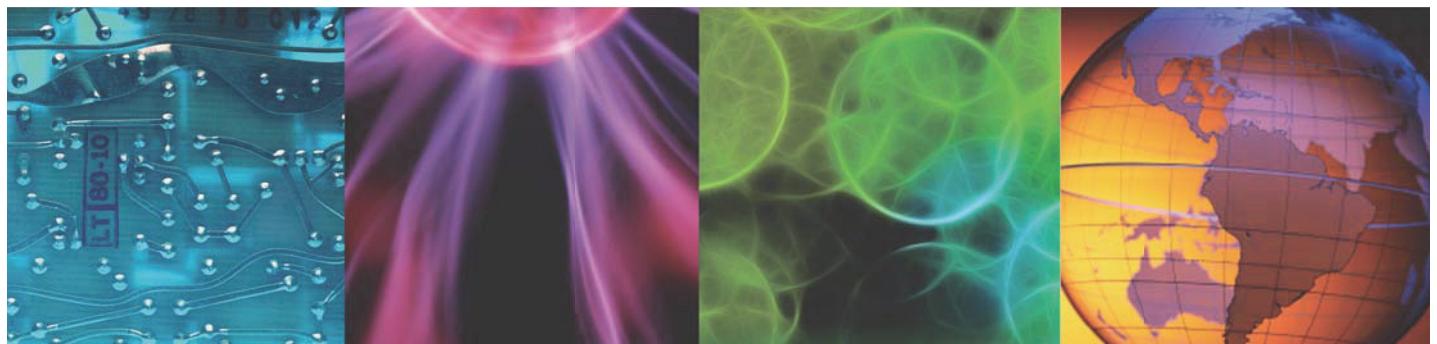
You can get even more out of Cloud & Smarter Infrastructure software by participating in one of the 91 independently run Cloud & Smarter Infrastructure user groups around the world. Learn about online and in-person user group opportunities near you at [www.tivoli-ug.org](http://www.tivoli-ug.org).

## Certification

All IBM certifications are based on job roles. They focus on a job a person must do with a product, not just the product's features and functions. Online certification paths are available to guide you through the process for achieving certification in many IBM Cloud & Smarter Infrastructure areas. See [ibm.com/tivoli/education](http://ibm.com/tivoli/education) for more information about certification.

**Special offer for having taken this course:** *Now through 31 December 2013:* For completing this course, you are entitled to a 15% discount on your next examination at any Thomson Prometric testing center worldwide. Use this special promotion code when registering online or by telephone to receive the discount: **15CSWR**. (This offer might be withdrawn. Check with the testing center.)

**IBM**<sup>®</sup>



[ibm.com/training](http://ibm.com/training)

Authorized  
**IBM** | Training





Printed in Ireland