

IBM Tivoli Monitoring: AIX Premium Agent
Version 6.2.2 Interim Feature 2

User's Guide



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Note

Before using this information and the product it supports, read the information in "Notices" on page 281.

This edition applies to version 6.2.2 Interim Feature 2 of IBM Tivoli Monitoring: AIX Premium Agent (product number 5724-C04) and to all subsequent releases and modifications until otherwise indicated in new editions.

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Contents

Tables	v
-------------------------	----------

Chapter 1. Overview of the agent 1

IBM Tivoli Monitoring	1
Functions of the monitoring agent	1
System p monitoring agents	1
Components of the IBM Tivoli Monitoring environment	3
User interface options	4

Chapter 2. Requirements and agent installation and configuration 5

Requirements for the monitoring agent	5
Language pack installation	5
Installing language packs on Windows systems.	5
Installing language packs on UNIX or Linux systems	6
Silent installation of language packs on Windows, UNIX, or Linux systems	7
Agent-specific installation and configuration.	8
Installation	8
Configuration	9
Remote installation and configuration	9
Additional information	9

Chapter 3. Workspaces reference . . . 11

Predefined workspaces	11
Workspace descriptions	12
AIX Premium Navigator item	12
Memory Navigator item	13
Networking Navigator item	14
Process Navigator item	14
Status Navigator item	15
Storage Navigator item	15
System Navigator item	16
Top Resources Navigator item	17
User Navigator item	18
WPAR Navigator item.	18

Chapter 4. Attributes reference 21

Attribute groups for the monitoring agent	21
Attributes in each attribute group	24
Active Memory Expansion attribute group	24
Active Users attribute group.	33
AMS Pool attribute group	35
CPU Detail attribute group	38
CPU Summary attribute group	47
Defined Users attribute group	54
Devices attribute group	56
Disks attribute group	57
File Systems attribute group.	64
Internet Protocol Detail attribute group	67
Internet Protocol Summary attribute group.	70
Logical Partition attribute group	72

Logical Volumes attribute group	85
MPIO Attributes attribute group	86
MPIO Status attribute group.	87
Network Adapters Rates attribute group.	88
Network Adapters Totals attribute group	103
Network Interfaces attribute group	110
NIM Resources attribute group	112
Paging Space attribute group	114
Performance Object Status attribute group.	116
Physical Memory attribute group.	119
Physical Volumes attribute group.	122
Print Queues attribute group	125
Processes Detail attribute group	126
Processes Summary attribute group	132
Quality Of Service attribute group	135
System Call attribute group	140
System IO attribute group	142
TADDM attribute group.	145
TCP attribute group	146
Top 50 CPU Processes attribute group	149
Top 50 Memory Processes attribute group.	151
Virtual Memory Management attribute group	152
Volume Groups attribute group	156
Workload Manager attribute group	159
WPAR CPU attribute group	166
WPAR FileSystem attribute group	168
WPAR Information attribute group	170
WPAR Network attribute group	174
WPAR Physical Memory attribute group	176
Disk capacity planning for historical data	179

Chapter 5. Situations reference. . . . 181

Predefined situations	181
Situation descriptions.	183
AIX Premium Navigator item	184
Memory Navigator item.	184
Networking Navigator item	187
Process Navigator item	192
Status Navigator item	196
Storage Navigator item	197
System Navigator item	201
Top Resources Navigator item.	208
User Navigator item	208
WPAR Navigator item	209

Chapter 6. Take Action commands reference 215

Predefined Take Action commands	215
---	-----

Chapter 7. Policies reference. 217

Predefined policies	217
-------------------------------	-----

Chapter 8. Troubleshooting 219

Trace logging	220
-------------------------	-----

Overview of log file management	220	Tasks to integrate the agent with Tivoli Business Service Manager	276
Principal trace log files	221	Installing the Discovery Library Toolkit on the Tivoli Business Service Manager	276
Examples: Using trace logs	223	Configuring the Tivoli Event Integration Facility (EIF) probe to enrich events	276
RAS trace parameters	224	Creating a service in Tivoli Business Service Manager	276
Dynamic modification of trace settings	226	Creating a data source mapping for each data source	277
Setting trace parameters for the Tivoli Enterprise Console server	229	Configuring additional IBM Tivoli Monitoring web services	277
Problems and workarounds	230	Viewing data in the Tivoli Enterprise Portal	277
Installation and configuration troubleshooting	230	Appendix D. Documentation library	279
Remote deployment troubleshooting	232	Prerequisite publications	279
Agent troubleshooting	232	Related publications	280
Workspace troubleshooting	236	Other sources of documentation	280
Situation troubleshooting	238	Notices	281
Take Action commands troubleshooting	241	Trademarks	283
Support information	241	Index	285
Appendix A. Event mapping	243		
Appendix B. Discovery Library Adapter for the AIX Premium agent	271		
DLA data model class types represented in CDM	271		
DLA data model classes for the AIX Premium agent	272		
LPAR class	272		
AIX class	273		
TMSAgent class	273		
Appendix C. Integration with Tivoli Business Service Manager	275		
Components for integrating with Tivoli Business Service Manager	275		

Tables

1. Capacity planning for historical data logged by the AIX Premium agent	179	6. Remote deployment problems and solutions	232
2. Information to gather before contacting IBM Software Support	219	7. Agent problems and solutions	232
3. Trace log files for troubleshooting agents	221	8. Workspace problems and solutions	237
4. Problems and solutions for installation and configuration	230	9. Situation problems and solutions	238
5. General problems and solutions for uninstallation	231	10. Take Action commands problems and solutions	241

Chapter 1. Overview of the agent

The IBM Tivoli Monitoring: AIX Premium Agent (product code PX) provides you with the capability to monitor AIX.

IBM® Tivoli® Monitoring is the base software for the AIX Premium agent. The AIX Premium agent monitors the availability, health, and performance of key AIX system resources.

IBM Tivoli Monitoring

IBM Tivoli Monitoring provides a way to monitor the availability and performance of all the systems in your enterprise from one or several designated workstations. It also provides useful historical data that you can use to track trends and to troubleshoot system problems.

You can use IBM Tivoli Monitoring to achieve the following tasks:

- Monitor for alerts on the systems that you are managing by using predefined situations or custom situations.
- Establish your own performance thresholds.
- Trace the causes leading to an alert.
- Gather comprehensive data about system conditions.
- Use policies to take actions, schedule work, and automate manual tasks.

The Tivoli Enterprise Portal is the interface for IBM Tivoli Monitoring products. You can use the consolidated view of your environment as seen in the Tivoli Enterprise Portal to monitor and resolve performance issues throughout the enterprise.

See the IBM Tivoli Monitoring publications listed in “Prerequisite publications” on page 279 for complete information about IBM Tivoli Monitoring and the Tivoli Enterprise Portal.

Functions of the monitoring agent

AIX Availability, Health, and Performance Resource Monitoring

Monitors the availability, health, and performance of key AIX system resources: LPAR configurations, CPU, memory, storage, network, printers, NIM, and Workload Partitions (WPARS).

System p monitoring agents

The four System p® monitoring agents monitor the PowerVM® environment.

Figure 1 on page 2 shows the four System p monitoring agents in the PowerVM environment:

- AIX® Premium agent
- CEC Base agent
- HMC Base agent
- VIOS Premium agent

Each agent operates independently of each other and together, they provide a complete PowerVM monitoring offering.

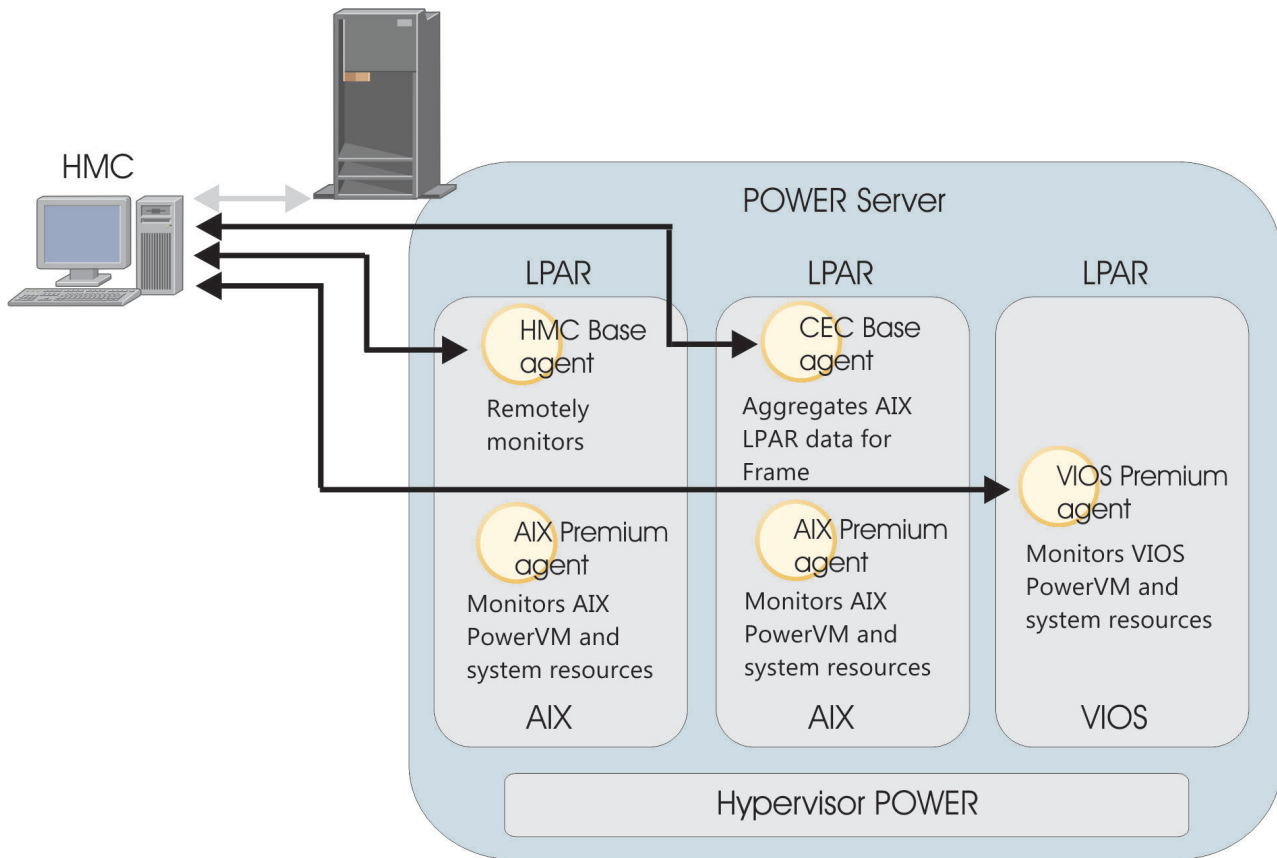


Figure 1. System p agents

- The AIX Premium agent runs on an AIX LPAR and provides monitoring of the AIX system for that LPAR. Each AIX LPAR to be monitored must run a dedicated AIX Premium agent. This agent is available on the installation package for the System p agents.
- The CEC Base agent runs on a single AIX or VIOS LPAR and provides Central Electronics Complex (CEC) frame-level monitoring of CPU and memory resources by aggregating information retrieved from the XMTOPAS daemon for each AIX/VIOS LPAR. LPARs not running AIX /VIOS or XMTOPAS cannot be monitored and therefore, impact the ability of the agent to provide accurate information. This agent uses a secure shell (SSH) connection to the hardware management console (HMC) to issue HMC commands for discovering the LPARs on the CEC. The agent does not rely on the AIX Premium agent data; however, this agent provides summaries of some of the same LPAR-specific information. For environments that are not managed by using the HMC, this agent must be run on the VIOS for discovery to be accomplished by using the Integrated Virtualization Manager (IVM). This agent is pre-installed with the VIOS operating system and is in the installation package for the System p agents.
- The HMC Base agent runs on a single AIX LPAR and provides monitoring of the health and performance of the HMC. This multi-instance agent uses a unique agent instance for monitoring each HMC. This agent sends HMC commands over an SSH connection to retrieve information from the HMC. The agent collects Power[®] server, LPAR, and CPU Pool configuration data and monitors the CPU utilization of the Power servers, LPARs, and pools. The agent is available in the installation package for the System p agents.
- The VIOS Premium agent runs on the VIOS LPAR and provides monitoring the VIOS system, and the network and storage client mapping defined by the HMC. Each VIOS to be monitored must run a dedicated VIOS Premium agent. This agent uses an SSH connection to the HMC to issue HMC commands, and uses the VIOS command line for discovering network and storage mapping data. This agent is pre-installed with the VIOS system and is not included in the installation package for the System p agents.

Components of the IBM Tivoli Monitoring environment

After you install and set up the AIX Premium agent, you have an environment that contains the client, server, and monitoring agent implementation for Tivoli Monitoring.

This Tivoli Monitoring environment contains the following components:

Tivoli Enterprise Portal client

The portal has a user interface based on Java™ for viewing and monitoring your enterprise.

Tivoli Enterprise Portal Server

The portal server is placed between the client and the Tivoli Enterprise Monitoring Server and enables retrieval, manipulation, and analysis of data from the monitoring agents. The Tivoli Enterprise Portal Server is the central repository for all user data.

Tivoli Enterprise Monitoring Server

The monitoring server acts as a collection and control point for alerts received from the monitoring agents, and collects their performance and availability data. The Tivoli Enterprise Monitoring Server is also a repository for historical data.

Tivoli Enterprise Monitoring Agent, AIX Premium agent

This monitoring agent collects data and distributes the data to the Tivoli Enterprise Monitoring Server, Tivoli Enterprise Portal Server, Tivoli Enterprise Portal, Tivoli Data Warehouse, and Tivoli Integrated Portal.

IBM Tivoli Netcool/OMNIBus

Tivoli Netcool/OMNIBus is an optional component and the recommended event management component. The Netcool/OMNIBus software is a service level management (SLM) system that delivers real-time, centralized monitoring of complex networks and IT domain events. Event information is tracked in a high-performance, in-memory database and presented to specific users through individually configurable filters and views. The software includes automation functions that you can use to perform intelligent processing on managed events. You can use this software to forward events for Tivoli Monitoring situations to Tivoli Netcool/OMNIBus.

IBM Tivoli Enterprise Console®

The Tivoli Enterprise Console is an optional component that acts as a central collection point for events from various sources, including events from other Tivoli software applications, Tivoli partner applications, custom applications, network management platforms, and relational database systems. You can view these events through the Tivoli Enterprise Portal (by using the event viewer), and you can forward events from Tivoli Monitoring situations to the Tivoli Enterprise Console component. If you do not already use Tivoli Enterprise Console and need an event management component, you can choose to use IBM Tivoli Netcool/OMNIBus.

IBM Tivoli Application Dependency Discovery Manager (TADDM)

TADDM delivers automated discovery and configuration tracking capabilities to build application maps that provide real-time visibility into application complexity.

IBM Tivoli Business Service Manager

The Tivoli Business Service Manager component delivers real-time information to help you respond to alerts effectively based on business requirements. Optionally, you can use this component to meet service-level agreements (SLAs). Use the Tivoli Business Service Manager tools to help build a service model that you can integrate with Tivoli Netcool/OMNIBus alerts or optionally integrate with data from an SQL data source. Optional components provide access to data from other IBM Tivoli applications such as Tivoli Monitoring and TADDM.

User interface options

Installation of the base IBM Tivoli Monitoring software and other integrated applications provides various interfaces that you can use to work with your resources and data.

The following interfaces are available:

Tivoli Enterprise Portal user interface

You can run the Tivoli Enterprise Portal as a desktop application or a browser application. The client interface is a graphical user interface (GUI) based on Java on a Windows or Linux workstation. The browser application is automatically installed with the Tivoli Enterprise Portal Server. The desktop application is installed by using the Tivoli Monitoring installation media or with a Java Web Start application. To start the Tivoli Enterprise Portal browser client in your Internet browser, enter the URL for a specific Tivoli Enterprise Portal browser client installed on your Web server.

Command-line interface

You can use Tivoli Monitoring commands to manage the Tivoli Monitoring components and their configuration. You can also run commands at the Tivoli Enterprise Console event server or the Tivoli Netcool/OMNIbus ObjectServer to configure event synchronization for enterprise situations.

Manage Tivoli Enterprise Monitoring Services window

You can use the window for the Manage Tivoli Enterprise Monitoring Services utility to configure the agent and start Tivoli services not designated to start automatically.

IBM Tivoli Netcool/OMNIbus event list

You can use the Netcool/OMNIbus event list to monitor and manage events. An event is created when the Netcool/OMNIbus ObjectServer receives an event, alert, message, or data item. Each event is made up of columns (or fields) of information that are displayed in a row in the ObjectServer alerts.status table. The Tivoli Netcool/OMNIbus web GUI is also a web-based application that processes network events from one or more data sources and presents the event data in various graphical formats.

IBM Tivoli Enterprise Console

You can use the Tivoli Enterprise Console to help ensure the optimal availability of an IT service for an organization. The Tivoli Enterprise Console is an event management application that integrates system, network, database, and application management. If you do not already use Tivoli Enterprise Console and need an event management component, you can choose to use Tivoli Netcool/OMNIbus.

IBM Tivoli Application Dependency Discovery Manager

The Discovery Management Console is the TADDM client user interface for managing discoveries.

IBM Tivoli Business Service Manager

The Tivoli Business Service Manager console provides a graphical user interface that you can use to logically link services and business requirements within the service model. The service model provides an operator with a second-by-second view of how an enterprise is performing at any moment in time or how the enterprise performed over a time period.

Chapter 2. Requirements and agent installation and configuration

Agent installation and configuration requires the use of the *IBM Tivoli Monitoring Installation and Setup Guide* and agent-specific installation and configuration information.

To install and configure IBM Tivoli Monitoring: AIX Premium Agent, use the procedures for installing monitoring agents in the *IBM Tivoli Monitoring Installation and Setup Guide* along with the agent-specific installation and configuration information.

If you are installing silently by using a response file, see “Performing a silent installation of IBM Tivoli Monitoring” in the *IBM Tivoli Monitoring Installation and Setup Guide*.

Requirements for the monitoring agent

In addition to the requirements described in the *IBM Tivoli Monitoring Installation and Setup Guide*, agents typically have agent-specific requirements.

The AIX Premium agent has the following agent-specific requirements:

- The monitoring agent runs on any of these operating systems:
 - AIX 5.3
 - AIX 6.1
 - AIX 7.1
- The AIX Premium agent must be installed on the AIX system to be monitored.
- A single computer that hosts the hub monitoring server, portal server, and a monitoring agent requires approximately 300 MB of space. A computer that hosts only the monitoring agent requires approximately 30 MB of space, including the specific enablement code for the monitoring agent. More space is required for each additional monitoring agent that you deploy on the monitoring computer.
- The monitoring agent must be connected to the following software:
 - IBM Tivoli Monitoring V6.2.2 or later

Language pack installation

The steps for installing language packs depend on which operating system and mode of installation you are using.

To install a language pack for the agent support files on the Tivoli Enterprise Monitoring Server, the Tivoli Enterprise Monitoring Agent, and the Tivoli Enterprise Portal Server, make sure that you installed the product in the English language. Then use the steps for the operating system or mode of installation you are using:

- “Installing language packs on Windows systems”
- “Installing language packs on UNIX or Linux systems” on page 6
- “Silent installation of language packs on Windows, UNIX, or Linux systems” on page 7

Installing language packs on Windows systems

You can install the language packs on a Windows system.

Before you begin

First, make sure that you installed the product in the English language.

Procedure

1. On the language pack CD, double-click the `lpinstaller.bat` file to start the installation program.
2. Select the language of the installer and click **OK**.
3. In the Introduction panel, click **Next**.
4. Click **Add/Update** and click **Next**.
5. Select the folder where the National Language Support package (NLSPackage) files are located. Typically, the NLSPackage files are located in the `nlspackage` folder where the installer executable file is located.
6. Select the language support for the agent of your choice and click **Next**. To make multiple selections, press **Ctrl** and select the language that you want.
7. Select the languages that you want to install and click **Next**.
8. Examine the installation summary page and click **Next** to begin installation.
9. After installation completes, click **Finish** to exit the installer.
10. Restart the Tivoli Enterprise Portal, Tivoli Enterprise Portal Server, and Eclipse Help Server if any of these components are installed.

Installing language packs on UNIX or Linux systems

You can install the language packs on a UNIX or Linux system.

Before you begin

First, make sure that you installed the product in the English language.

Procedure

1. Enter the `mkdir` command to create a temporary directory on the computer, for example, `mkdir dir_name`. Make sure that the full path of the directory does not contain any spaces.
2. Mount the language pack CD to the temporary directory that you created.
3. Enter the following command to start the installation program: `cd dir_name lpinstaller.sh -c install_dir` where `install_dir` is where you installed IBM Tivoli Monitoring. Typically, the directory name is `/opt/IBM/ITM` for UNIX and Linux systems.
4. Select the language of the installer and click **OK**.
5. In the Introduction panel, click **Next**.
6. Click **Add/Update** and click **Next**.
7. Select the folder where the National Language Support package (NLSPackage) files are located. Typically, the NLSPackage files are located in the `nlspackage` folder where the installer executable file is located.
8. Select the language support for the agent of your choice and click **Next**. To make multiple selections, press **Ctrl** and select the language that you want.
9. Select the languages that you want to install and click **Next**.
10. Examine the installation summary page and click **Next** to begin installation.
11. After installation completes, click **Finish** to exit the installer.
12. Restart the Tivoli Enterprise Portal, Tivoli Enterprise Portal Server, and Eclipse Help Server if any of these components are installed.

Silent installation of language packs on Windows, UNIX, or Linux systems

You can use the silent-mode installation method to install the language packs. In silent mode, the installation process obtains the installation settings from a predefined response file. It does not prompt you for any information.

Before you begin

First, make sure that you installed the product in the English language.

Procedure

1. Copy and paste the `ITM_Agent_LP_silent.rsp` response file template as shown in “Response file example.”
2. Change the following parameter settings:

NLS_PACKAGE_FOLDER

Folder where the National Language Support package (NLSPackage) files are located. Typically, the NLSPackage files are located in the `nlspackage` folder, for example:
`NLS_PACKAGE_FOLDER = //tmp//LP//nlspackage.`

PROD_SELECTION_PKG

Name of the language pack to install. Several product components can be included in one language package. You might want to install only some of the available components in a language pack.

BASE_AGENT_FOUND_PKG_LIST

Agent for which you are installing language support. This value is usually the same as `PROD_SELECTION_PKG`.

LANG_SELECTION_LIST

Language you want to install.

3. Enter the command to install the language pack with a response file (silent installation):

- For Windows systems:
`lpinstaller.bat -f path_to_response_file`
- For UNIX or Linux systems:
`lpinstaller.sh -c candle_home -f path_to_response_file`

where `candle_home` is the IBM Tivoli Monitoring base directory.

Response file example

```
# IBM Tivoli Monitoring Agent Language Pack Silent Installation Operation
#
#This is a sample response file for silent installation mode for the IBM Tivoli
#Monitoring Common Language Pack Installer.
#.
#This file uses the IBM Tivoli Monitoring Common Agent Language Pack with the
#install package as an example.
#Note:
#This response file is for the INSTALLATION of language packs only.
#This file does not support UNINSTALLATION of language packs in silent mode.
#-----
#-----
#To successfully complete a silent installation of the the example of Common Agent
#localization pack, complete the following steps:
#
#1.Copy ITM_Agent_LP_silent.rsp to the directory where lpinstaller.bat or
#lpinstaller.sh is located (IBM Tivoli Monitoring Agent Language Pack build
#location).
```

```

#
#2.Modify the response file so that it is customized correctly and completely for
#your site.
# Complete all of the following steps in the response file.
#
#3.After customizing the response file, invoke the silent installation using the
#following command:
#For Windows:
# lpinstaller.bat -f <path_to_response_file>
#For UNIX and Linux:
# lpinstaller.sh -c < Candle_Home> -f <path_to_response_file>
#Note:< Candle_Home> is the IBM Tivoli Monitoring base directory.
#-----
#-----
#Force silent install mode.
#-----
INSTALLER_UI=silent
#-----
#Run add and update actions.
#-----
CHOSEN_INSTALL_SET=ADDUPD_SET
#-----
#NLS Package Folder, where the NLS Packages exist.
#For Windows:
# Use the backslash-backslash(\\) as a file separator (for example,
#C:\\zosgmv\\LCD7-3583-01\\nlspackage).
#For UNIX and Linux:
# Use the slash-slash (//) as a file separator (for example,
#//installtivoli//lpsilenttest//nlspackage).
#-----
#NLS_PACKAGE_FOLDER=C:\\zosgmv\\LCD7-3583-01\\nlspackage
NLS_PACKAGE_FOLDER=//tmp//LP//nlspackage
#-----
#List the packages to process; both variables are required.
#Each variable requires that full paths are specified.
#Separate multiple entries with a semicolon (;).
#For Windows:
# Use the backslash-backslash(\\) as a file separator.
#For Unix and Linux:
# Use the slash-slash (//) as a file separator.
#-----
#PROD_SELECTION_PKG=C:\\zosgmv\\LCD7-3583-01\\nlspackage\\KIP_NLS.nlspkg
#BASE_AGENT_FOUND_PKG_LIST=C:\\zosgmv\\LCD7-3583-01\\nlspackage\\KIP_NLS.nlspkg
PROD_SELECTION_PKG=//tmp//LP//nlspackage//kex_nls.nlspkg;//tmp//LP//nlspackage//
koq_nls.nlspkg
BASE_AGENT_FOUND_PKG_LIST=//tmp//LP//nlspackage//kex_nls.nlspkg;//
tmp//LP//nlspackage//koq_nls.nlspkg
#-----
#List the languages to process.
#Separate multiple entries with semicolons.
#-----
LANG_SELECTION_LIST=pt_BR;fr;de;it;ja;ko;zh_CN;es;zh_TW

```

Agent-specific installation and configuration

In addition to the installation and configuration information in the *IBM Tivoli Monitoring Installation and Setup Guide*, use this agent-specific installation and configuration information to install the AIX Premium agent.

Installation Procedure

Use the `install_dir/install.sh` script to install the AIX Premium agent on an AIX operating system.

Configuration Procedure

Use the standard IBM Tivoli Monitoring agent installation procedure to configure the AIX Premium agent on an AIX system.

Remote installation and configuration

You can install the monitoring agent remotely from the Tivoli Enterprise Portal or from the command line.

The AIX Premium agent does not have agent-specific configuration values.

To install from the portal, see the *IBM Tivoli Monitoring Installation and Setup Guide*.

To remotely install or configure an agent through the Tivoli Enterprise Portal, you must have installed the application support for that agent (Tivoli Enterprise Monitoring Server, Tivoli Enterprise Portal Server, and Tivoli Enterprise Portal). You must also have installed the agent bundle into the Remote Deploy Depot.

For information about displaying the configuration options that are available to use with the **configureSystem** or **addSystem** commands see “tacmd describeSystemType” in the *IBM Tivoli Monitoring Command Reference*.

If you are using the command line, the following command is an example of remote installation and configuration for Windows operating systems:

```
tacmd addSystem -t PX -n Primary:sample.node.name:NT  
-p
```

Additional information

- The agent can be installed, configured, and started under the root user ID or a nonroot user ID.
If you install as nonroot, you are prompted for the root password during the installation. Prompting occurs so that the installation script can add the agents to the system initialization scripts. If you do not enter the root password, the agents are not automatically started when the system is restarted. Also, if you install as nonroot, no WPAR data is available.
- The IBM Tivoli Monitoring `install.sh` script identifies AIX 6.1 and 7.1 systems as AIX R6.1 (64 bit). Install the agent on AIX 6.1 and 7.1 by using the AIX 6.1 installer option.
- LPARs running the agent must have the Allow processor pool utilization authority or Allow performance information collection option that is checked in the Hardware Management Console (HMC) to monitor the Available CPU Units in Pool attribute.

Chapter 3. Workspaces reference

A workspace is the working area of the Tivoli Enterprise Portal application window. The Navigator tree contains a list of the workspaces provided by the agent.

About workspaces

Use the Navigator tree to select the workspace you want to see. As part of the application window, the status bar shows the Tivoli Enterprise Portal Server name and port number to which the displayed information applies and the ID of the current user.

When you select an item in the Navigator tree, a default workspace is displayed. When you right-click a Navigator item, a menu that includes a Workspace item is displayed. The Workspace item contains a list of workspaces for that Navigator item. Each workspace has at least one view. Some views have links to other workspaces. You can also use the Workspace Gallery tool as described in the *Tivoli Enterprise Portal User's Guide* to open workspaces.

The workspaces in the Navigator are displayed in a Physical view that shows your enterprise as a physical mapping or a dynamically populated logical view that is agent-specific. You can also create a Logical view. The Physical view is the default view.

This monitoring agent provides predefined workspaces. You cannot modify or delete the predefined workspaces, but you can create new workspaces by editing them and saving the changes with a different name.

Workspace views can be any combination of query-based views, event views, and special purpose views.

Additional information about workspaces

For more information about creating, customizing, and working with workspaces, see "Using workspaces" in the *Tivoli Enterprise Portal User's Guide*.

For a list of the predefined workspaces for this monitoring agent and a description of each workspace, see Predefined workspaces and the information about each individual workspace.

Some attribute groups for this monitoring agent might not be represented in the predefined workspaces or views for this agent. For a full list of the attribute groups, see "Attribute groups for the monitoring agent" on page 21.

Predefined workspaces

The AIX Premium agent provides predefined workspaces, which are organized by Navigator item.

- AIX Premium Navigator item
 - AIX Premium workspace
 - Performance Object Status workspace
 - Resources - Summary Graph workspace
- Memory Navigator item
 - Active Memory Expansion workspace
 - Memory workspace
- Networking Navigator item

- Network Adapter Utilization workspace
- Network Protocol Views workspace
- Networking workspace
- Process Navigator item
 - Process workspace
- Status Navigator item
 - Status workspace
- Storage Navigator item
 - File Systems workspace
 - Logical Volume Details workspace
 - MPIO Storage Information workspace
 - Storage workspace
 - System Storage Information workspace
 - Volume Groups and Logical Volumes workspace
- System Navigator item
 - CPU Utilization workspace
 - LPAR Information workspace
 - NIM Resources workspace
 - Print Queues workspace
 - System workspace
 - Workload Manager workspace
- Top Resources Navigator item
 - Top Resources workspace
- User Navigator item
 - User workspace
- WPAR Navigator item
 - WPAR workspace
 - WPAR CPU workspace
 - WPAR Details workspace
 - WPAR Memory workspace
 - WPAR Network and File System workspace
 - WPAR Process Views workspace

Workspace descriptions

Each workspace description provides information about the workspace such as the purpose and a list of views in the workspace.

Workspaces are listed under Navigator items.

AIX Premium Navigator item

The workspace descriptions are organized by the Navigator item to which the workspaces are relevant.

Performance Object Status workspace

This workspace reflects the status of other attribute groups so you can see the status of all of the performance objects that make up this application all at once. Each of these other performance attribute groups is represented by a row in this table or other type of view. The status for an attribute group reflects the result of the last attempt to collect data for that attribute group, which allows you to see whether the agent is performing correctly. Unlike other attribute groups, the

Performance Object Status attribute group does not reflect the state of the monitored application. The Performance Object Status attribute group is most often used to determine why data does not seem to be available for one of the other performance attribute groups.

This workspace contains the following view:

Performance Object Status

Shows a table of the attribute groups associated with the AIX Premium Agent.

Resources - Summary Graph workspace

This workspace displays graphs of CPU, memory, physical volume resources, and a table of network interfaces.

This workspace contains the following views:

CPU Availability

Shows a pie chart of overall CPU utilization.

Physical Volume Resources

Shows stacked bar charts of free to used space on physical volumes.

Real Memory Resources

Shows a stacked bar chart of free and used memory.

Network Interface Resources

Shows a table of network interfaces.

System Inventory workspace

This workspace displays a quick list of key system resources: CPU, real memory, physical volume, and network interfaces.

This workspace contains the following views:

Logical Partition Attributes

Shows basic LPAR configuration settings.

Logical Partition Units

Shows CPU allocation and availability information.

Network Interface Resources

Shows a table of network interfaces.

Total Real Memory

Shows total memory along with the amount free and used.

Physical Volumes

Shows a table of physical volumes, their size, and associated volume group.

Number of CPUs

Shows the number of CPUs and version of AIX.

Memory Navigator item

The workspace descriptions are organized by the Navigator item to which the workspaces are relevant.

Active Memory Expansion workspace

This workspace contains the following views:

Effective Memory Layout

Shows the layout and sizes of compressed and uncompressed memory, included the deficit if one is present.

Expansion Factors

Shows a moving graph of target memory expansion factor and current memory expansion factor.

AME Summary

Shows a table of summary attributes for AME.

AME Details

Shows attributes for AME at a detailed level.

Memory Information workspace

This workspace displays information about the real memory and paging space utilization, and Virtual Memory Manager (VMM) paging rates.

This workspace contains the following views:

Real Memory Utilization

Shows a stacked bar chart of free and used memory.

Computational Memory

Shows a stacked bar chart of non-computational and computational memory.

VMM Paging Rates

Shows basic paging rates.

Page Fault Rates

Shows advanced paging rates.

Paging Space Utilization

Shows a stacked bar chart of free and used paging space.

Networking Navigator item

The workspace descriptions are organized by the Navigator item to which the workspaces are relevant.

Network Adapter Utilization workspace

This workspace displays utilization and errors per network adapter.

This workspace contains the following views:

Adapter Throughput

Shows summary per adapter throughput information.

Bandwidth Utilization

Shows the network bandwidth utilization of each network interface.

Network Error Rate

Shows summary per adapter error rate information.

Utilization per Adapter

Shows summary utilization totals per adapter.

Network Interfaces workspace

This workspace has views that show Network Interfaces Status (name, IP addr, and so on) as well as Network Quality of Service attributes.

This workspace contains the following views:

Network Interfaces Status

Shows a table of network interfaces.

Network Quality of Service

Shows a variety of metrics associated with network quality of service.

Common TCP/IP Problems with Network Interfaces

Shows an explanation of how to diagnose and correct common TCP/IP problems with network interfaces.

Network Protocol Views workspace

This workspace displays views of IP, TCP, and per IP interface utilization metrics.

This workspace contains the following views:

IP Packet Statistics

Shows rates of IP traffic.

IP Throughput per Adapter

Shows the rate of IP packets transmitted and received per interface.

TCP Throughput

Shows the rate of TCP packets transmitted and received per interface.

Process Navigator item

The workspace descriptions are organized by the Navigator item to which the workspaces are relevant.

Process Views workspace

This workspace displays global and per process views.

This workspace contains the following views:

Queue Averages

Shows run queue and swap queue average sizes.

Kernel Processes

Shows rate of kernel processes being created and exiting.

Utilization

Shows total system number of processes, load average utilization average, and context switches per second.

Per Process Information

Shows a list of all processes on the system, their attributes, and their resource consumption.

Status Navigator item

The workspace descriptions are organized by the Navigator item to which the workspaces are relevant.

Status workspace

This workspace has views that show the availability of network and storage devices as well as a list of devices and their type, class, parent name, and status.

This workspace contains the following view:

Device Status

Shows the status of devices associated with an LPAR, including their parent names, device type and class.

Storage Navigator item

The workspace descriptions are organized by the Navigator item to which the workspaces are relevant.

File Systems workspace

This workspace displays information about file system Sizes in table and graph forms.

This workspace contains the following views:

File System Metrics

Shows file systems, their mount points, associated volume groups, and usage statistics.

File System Utilization

Shows a stacked bar chart of free and used space for each file system.

Logical Volume Details workspace

This workspace displays detailed information about logical volumes including their size, type, mount point, and associated volume group.

This workspace contains the following views:

Logical Volume Sizes

Shows a bar chart of the sizes of each logical volume.

Logical Volume Details

Shows details for each logical volume including associated volume group and current state.

MPIO Storage Information workspace

The MPIO Storage Information workspace has views that show the Multi-Path I/O (MPIO) Attributes, Connection Status, and Storage Devices Utilization on the current LPAR.

This workspace contains the following views:

MPIO Attributes

Shows the attributes, values, and descriptions of each storage device. It also indicates whether an attribute is user settable or not.

MPIO Connection Status

Shows a list of storage devices, the parent name of each device, the device path status, the device operational status and the connection ID of the storage device listed.

Storage Devices Utilization

Shows key utilization metrics for each storage device associated with the LPAR.

Physical Volume Details workspace

This workspace displays information about physical volume size and metrics.

This workspace contains the following views:

Physical Volume Sizes

Shows the used and available space as a stacked bar graph for each physical volume.

Physical Volume Metrics

Shows the number of logical volumes and stale partitions.

Physical Volume Details

Shows the details of each physical volume including associated volume groups, size, and allocation details.

System Storage Information workspace

This workspace shows performance metrics for each active disk and adapter.

This workspace contains the following views:

Disk and Adapter Details

Shows all disks and adapters, their types, and summary statistics.

Disk and Adapter Transfer Rates

Shows transferred KB per second for each disk and adapter.

Disk and Adapter I/O Rates

Shows read and write KB per second for each disk and adapter.

Disk and Adapter Timeout Rates

Shows read and write timeouts per second for each disk and adapter.

Volume Groups and Logical Volumes workspace

This workspace displays sizes and other properties of volume groups and logical volumes.

This workspace contains the following views:

Volume Group Sizes

Shows the used and free space as a stacked bar graph for each volume group.

Volume Group Details

Shows detailed information about each volume group, including allocated physical and logical volumes.

Volume Group Allocations

Shows the number of active physical volumes and stale physical volumes as a stacked bar graph per volume group.

Logical Volume Sizes

Shows the size of each logical volume.

Logical Volume Mappings

Shows the association between logical volumes and volume groups.

System Navigator item

The workspace descriptions are organized by the Navigator item to which the workspaces are relevant.

CPU Information workspace

This workspace displays information about summary and per processor CPU utilization.

This workspace contains the following views:

CPU Utilization per Processor

Shows a pie chart of utilization per CPU.

CPU Availability

Shows a pie chart of overall CPU utilization.

CPU Details per Processor

Shows detailed information on the workload of each CPU.

LPAR Events

Shows LPAR creation, migration, and deletion events.

CPU Utilization workspace

This workspace displays a real-time graph of CPU utilization and CPU utilization per processor.

This workspace contains the following views:

Total CPU Utilization

Shows a real-time graph of overall CPU utilization.

Processor Frequency Information

Shows the fractional number of physical processors that are used in each mode. Actual metrics use PURR counters, normalized metrics use SPURR counters.

CPU Utilization per Processor

Shows a pie chart of utilization per CPU.

LPAR Information workspace

This workspace displays LPAR CPU utilization, number of CPUs, entitlement, and LPAR attributes.

This workspace contains the following views:

CPU Entitlement

Shows the entitlement of the LPAR in the context of the number of CPUs for the host.

LPAR CPUs

Shows allocation of physical and logical CPUs in a shared pool.

LPAR Attributes

Shows LPAR metrics that are determined by configuration.

LPAR Utilization

Shows LPAR metrics that change frequently and dynamically.

LPAR CPU Utilization

Shows a pie chart of overall CPU utilization.

Active Memory Sharing (AMS) Pool

Shows information about AMS shared memory pools.

NIM Resources workspace

This workspace displays a table of NIM resources available.

This workspace contains the following views:

Network Installation Management (NIM) Introduction

Shows a table of available NIM resources.

NIM Resources

Shows an introduction to NIM.

Print Queues workspace

This workspace displays a list of printers and print queues.

This workspace contains the following views:

Printers, Print Jobs, and Queues

Shows list of active print queues.

Print Queues

Shows descriptive text of printers, print jobs, and queues.

Workload Manager workspace

This workspace displays the CPU, memory, and disk resource metrics per WLM class.

This workspace contains the following views:

WLM Class Load

Shows CPU, disk, and memory load percentages for each workload manager class.

Workload Manager Settings

Shows settings for each workload manager class.

Top Resources Navigator item

The workspace descriptions are organized by the Navigator item to which the workspaces are relevant.

Top Resource Usage workspace

This workspace displays information about file system sizes and top CPU and memory utilization by process.

This workspace contains the following views:

Top Memory Processes

Shows the highest memory-consuming processes listed in descending order by memory usage.

File System Metrics

Shows file systems, their mount points, associated volume groups, and usage statistics.

File System Sizes

Shows pie charts of free and used space for file systems.

Top CPU Processes

Shows the highest CPU-consuming processes listed in descending order by CPU usage.

User Navigator item

The workspace descriptions are organized by the Navigator item to which the workspaces are relevant.

User Information workspace

This workspace displays information about both defined users and currently active users.

This workspace contains the following views:

Defined Users

Shows a list of all users defined in `/etc/passwd`.

Active Users

Shows a list of all users who are currently logged in with details about each session.

WPAR Navigator item

The workspace descriptions are organized by the Navigator item to which the workspaces are relevant.

WPAR CPU workspace

This workspace provides detailed information on CPU consumption and CPU resource limits for a WPAR.

This workspace contains the following views:

CPU Usage

Shows the WPARs CPU consumption and its consumption limit.

CPU Usage Modes

Shows a pie chart of percentage CPU utilization in user and system modes for the WPAR.

CPU Limit

Shows a bar chart with CPU consumption limit for the WPAR and the entitlement for the LPAR.

CPU Usage Details

Shows detailed CPU usage and limits for the WPAR.

Workspace Navigation

Lists all of the WPARs in the partition with links beside them to navigate to the desired workspace.

WPAR Details workspace

This workspace provides detailed views on the status, configuration, and resource limits of a WPAR.

This workspace contains the following views:

Resource Controls

Shows a table with various resource controls for the WPAR.

CPU Resource Limits

Lists the CPU resource limits for the WPAR.

Memory Resource Limits

Lists the memory resource limits for the WPAR.

Configuration

Shows various configuration parameters for the WPAR.

Administration Status

Shows a table providing administrative information and status of the WPAR.

WPAR Memory workspace

This workspace provides detailed information on memory consumption and memory resource limits for a WPAR.

This workspace contains the following views:

Used and Free Memory

Shows a bar chart with the amount of free and used memory in the WPAR.

Memory Utilization

Shows the used and free memory percentages for the WPAR as a pie chart.

Memory Usage and Availability

Shows memory usage for the WPAR and memory size against the total memory available in the partition.

Memory Usage Details.

Shows detailed memory usage and limits for the WPAR.

Workspace Navigation

Lists all of the WPARs in the partition with links beside them to navigate to the desired workspace.

WPAR Network and Filesystem details workspace

This workspace displays networking and file system information for a WPAR.

This workspace contains the following views:

Network Summary

Shows a table with network interface related metrics for the WPAR.

File System Summary

Shows the file system information for the WPAR.

Workspace Navigation

Lists all of the WPARs in the partition with links beside them to navigate to the desired workspace.

WPAR Process Views workspace

This workspace shows detailed information on the processes running inside a WPAR.

This workspace contains the following views:

Process Information

Shows all of the processes running inside the WPAR.

Workspace Navigation

Lists all of the WPARs in the partition with links beside them to navigate to the desired workspace.

WPAR Summary workspace

This workspace provides a summary of CPU utilization, memory utilization, and current status of all of the WPARs.

This workspace contains the following views:

LPAR CPU Utilization by WPARs

Shows the percentage of entitlement for the LPAR consumed by each WPAR.

LPAR Memory Utilization by WPARs

Shows the percentage of memory for the LPAR used by each WPAR.

WPAR Status and Configuration

Provides a summarized status for all of the WPARs.

Chapter 4. Attributes reference

Attributes are the application properties that are being measured and reported by the IBM Tivoli Monitoring: AIX Premium Agent.

About attributes

Attributes are organized into attribute groups. Attributes in an attribute group relate to a single object such as an application, or to a single kind of data such as status information.

Attributes in a group can be used in queries, query-based views, situations, policy workflows, take action definitions, and launch application definitions. Chart or table views and situations are two examples of how attributes in a group can be used:

- Chart or table views

Attributes are displayed in chart and table views. The chart and table views use queries to specify which attribute values to request from a monitoring agent. You use the Properties editor to apply filters and set styles to define the content and appearance of a view based on an existing query.

- Situations

You use attributes to create situations that monitor the state of your operating system, database, or application. A situation describes a condition you want to test. When you start a situation, the values you assign to the situation attributes are compared with the values collected by the AIX Premium agent and registers an *event* if the condition is met. You are alerted to events by indicator icons that are displayed in the Navigator.

Additional information about attributes

For more information about using attributes and attribute groups, see the *Tivoli Enterprise Portal User's Guide*.

For a list of the attribute groups, a list of the attributes in each attribute group, and descriptions of the attributes for this monitoring agent, see "Attribute groups for the monitoring agent" and "Attributes in each attribute group" on page 24.

Attribute groups for the monitoring agent

The AIX Premium agent contains the following attribute groups. The table name depends on the maximum table name limits of the target database being used for the Tivoli Data Warehouse. If the maximum name is 30 characters, any warehouse table name longer than 30 characters is shortened to 30 characters.

- Attribute group name: Active Memory Expansion
 - Table name: KPX55AME
 - Warehouse table name: KPX_ACTIVE_MEMORY_EXPANSION or KPX55AME
- Attribute group name: Active Users
 - Table name: KPX42ACTIV
 - Warehouse table name: KPX_ACTIVE_USERS or KPX42ACTIV
- Attribute group name: AMS Pool
 - Table name: KPX53MPOOL
 - Warehouse table name: KPX_AMS_POOL or KPX53MPOOL
- Attribute group name: CPU Detail

- Table name: KPX09CPUDE
- Warehouse table name: KPX_CPU_DETAIL or KPX09CPUDE
- Attribute group name: CPU Summary
 - Table name: KPX08CPUSU
 - Warehouse table name: KPX_CPU_SUMMARY or KPX08CPUSU
- Attribute group name: Defined Users
 - Table name: KPX41DEFIN
 - Warehouse table name: KPX_DEFINED_USERS or KPX41DEFIN
- Attribute group name: Devices
 - Table name: KPX51DEVIC
 - Warehouse table name: KPX_DEVICES or KPX51DEVIC
- Attribute group name: Disks
 - Table name: KPX26DISKS
 - Warehouse table name: KPX_DISKS or KPX26DISKS
- Attribute group name: File Systems
 - Table name: KPX30FILES
 - Warehouse table name: KPX_FILE_SYSTEMS or KPX30FILES
- Attribute group name: Internet Protocol Detail
 - Table name: KPX36INTER
 - Warehouse table name: KPX_INTERNET_PROTOCOL_DETAIL or KPX36INTER
- Attribute group name: Internet Protocol Summary
 - Table name: KPX35INTER
 - Warehouse table name: KPX_INTERNET_PROTOCOL_SUMMARY or KPX35INTER
- Attribute group name: Logical Partition
 - Table name: KPX14LOGIC
 - Warehouse table name: KPX_LOGICAL_PARTITION or KPX14LOGIC
- Attribute group name: Logical Volumes
 - Table name: KPX29LOGIC
 - Warehouse table name: KPX_LOGICAL_VOLUMES or KPX29LOGIC
- Attribute group name: MPIO Attributes
 - Table name: KPX52MPIOA
 - Warehouse table name: KPX_MPIO_ATTRIBUTES or KPX52MPIOA
- Attribute group name: MPIO Status
 - Table name: KPX51MPIOA
 - Warehouse table name: KPX_MPIO_STATUS or KPX51MPIOA
- Attribute group name: Network Adapters Rates
 - Table name: KPX34NETWO
 - Warehouse table name: KPX_NETWORK_ADAPTERS_RATES or KPX34NETWO
- Attribute group name: Network Adapters Totals
 - Table name: KPX33NETWO
 - Warehouse table name: KPX_NETWORK_ADAPTERS_TOTALS or KPX33NETWO
- Attribute group name: Network Interfaces
 - Table name: KPX32NETWO
 - Warehouse table name: KPX_NETWORK_INTERFACES or KPX32NETWO
- Attribute group name: NIM Resources

- Table name: KPX16NIMRE
- Warehouse table name: KPX_NIM_RESOURCES or KPX16NIMRE
- Attribute group name: Paging Space
 - Table name: KPX13PAGIN
 - Warehouse table name: KPX_PAGING_SPACE or KPX13PAGIN
- Attribute group name: Performance Object Status
 - Table name: KPXPOBJST
 - Warehouse table name: KPX_PERFORMANCE_OBJECT_STATUS or KPXPOBJST
- Attribute group name: Physical Memory
 - Table name: KPX19PHYSI
 - Warehouse table name: KPX_PHYSICAL_MEMORY or KPX19PHYSI
- Attribute group name: Physical Volumes
 - Table name: KPX27PHYSI
 - Warehouse table name: KPX_PHYSICAL_VOLUMES or KPX27PHYSI
- Attribute group name: Print Queues
 - Table name: KPX17PRINT
 - Warehouse table name: KPX_PRINT_QUEUES or KPX17PRINT
- Attribute group name: Processes Detail
 - Table name: KPX24PROCE
 - Warehouse table name: KPX_PROCESSES_DETAIL or KPX24PROCE
- Attribute group name: Processes Summary
 - Table name: KPX23PROCE
 - Warehouse table name: KPX_PROCESSES_SUMMARY or KPX23PROCE
- Attribute group name: Quality Of Service
 - Table name: KPX54QOS
 - Warehouse table name: KPX_QUALITY_OF_SERVICE or KPX54QOS
- Attribute group name: System Call
 - Table name: KPX12SYSTE
 - Warehouse table name: KPX_SYSTEM_CALL or KPX12SYSTE
- Attribute group name: System IO
 - Table name: KPX11SYSTE
 - Warehouse table name: KPX_SYSTEM_IO or KPX11SYSTE
- Attribute group name: TADDM
 - Table name: KPX56TADDM
 - Warehouse table name: KPX_TADDM or KPX56TADDM
- Attribute group name: TCP
 - Table name: KPX37TCP
 - Warehouse table name: KPX_TCP or KPX37TCP
- Attribute group name: Top 50 CPU Processes
 - Table name: KPX02TOP50
 - Warehouse table name: KPX_TOP_50_CPU_PROCESSES or KPX02TOP50
- Attribute group name: Top 50 Memory Processes
 - Table name: KPX03TOP50
 - Warehouse table name: KPX_TOP_50_MEMORY_PROCESSES or KPX03TOP50
- Attribute group name: Virtual Memory Management

- Table name: KPX20VIRTU
- Warehouse table name: KPX_VIRTUAL_MEMORY_MANAGEMENT or KPX20VIRTU
- Attribute group name: Volume Groups
 - Table name: KPX28VOLUM
 - Warehouse table name: KPX_VOLUME_GROUPS or KPX28VOLUM
- Attribute group name: Workload Manager
 - Table name: KPX15WORKL
 - Warehouse table name: KPX_WORKLOAD_MANAGER or KPX15WORKL
- Attribute group name: WPAR CPU
 - Table name: KPX46WPARC
 - Warehouse table name: KPX_WPAR_CPU or KPX46WPARC
- Attribute group name: WPAR FileSystem
 - Table name: KPX49WPFIL
 - Warehouse table name: KPX_WPAR_FILESYSTEM or KPX49WPFIL
- Attribute group name: WPAR Information
 - Table name: KPX50WPINF
 - Warehouse table name: KPX_WPAR_INFORMATION or KPX50WPINF
- Attribute group name: WPAR Network
 - Table name: KPX48WPNET
 - Warehouse table name: KPX_WPAR_NETWORK or KPX48WPNET
- Attribute group name: WPAR Physical Memory
 - Table name: KPX47WPPHM
 - Warehouse table name: KPX_WPAR_PHYSICAL_MEMORY or KPX47WPPHM

Attributes in each attribute group

Attributes in each AIX Premium agent attribute group collect data that the agent uses for monitoring.

The descriptions of the attribute groups contain the following information:

Historical group

Whether the attribute group is a historical type that you can roll off to a data warehouse.

Attribute descriptions

Information such as description, type, source, and warehouse name, as applicable, for each attribute in the attribute group.

Some attributes are designated as key attributes. A *key attribute* is an attribute that is used in warehouse aggregation to identify rows of data that represent the same object.

The Source information sometimes uses C programming code syntax for if-then-else clauses to describe how an attribute is derived, for example:

```
(CPU_Pct < 0 ) || (Memory_Pct < 0 )? 0 : 1
```

This example means that if the CPU_Pct attribute is less than 0 or if the Memory_Pct attribute is less than 0, then the attribute is set to 0. Otherwise, the attribute is set to 1.

Active Memory Expansion attribute group

This attribute group contains attributes associated with the AIX memory expansion feature.

Historical group

This attribute group is eligible for use with Tivoli Data Warehouse.

Attribute descriptions

The following list contains information about each attribute in the Active Memory Expansion attribute group:

Node attribute: This attribute is a key attribute.

Description

The managed system name of the agent.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

NODE

Timestamp attribute

Description

The local time at the agent when the data was collected.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

TIMESTAMP

AME Mode attribute

Description

Active Memory Expansion (AME) mode is 'Enabled' or 'Disabled' for this partition.

Type

Integer with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Disabled (0)
- Enabled (1)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

AME_MODE

True Memory Size MB attribute

Description

The size of the memory (Compressed + Uncompressed memory, when AME is enabled; LPAR memory size, when AME is disabled).

Type

Real number (32-bit gauge) with two decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-100)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

TRUE_MEMORY_SIZE_MB or TMSM

Target Memory Expansion Factor attribute

Description

The target Memory Expansion Factor is the HMC-configured multiplier (1.00 to 10.00) used to calculate the target expanded memory size.

Type

Real number (32-bit gauge) with two decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-100)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

TARGET_MEMORY_EXPANSION_FACTOR or TMEF

Current Memory Expansion Factor attribute**Description**

The current Memory Expansion Factor is the ratio of the current effective memory size to real memory size.

Type

Real number (32-bit gauge) with two decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-100)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

CURRENT_MEMORY_EXPANSION_FACTOR or CMEF

Effective Memory Size MB attribute**Description**

The memory size that the operating system reports (real memory times the Memory Expansion Factor configured by the HMC).

Type

Real number (32-bit gauge) with two decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-100)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Source

The source for this attribute is derived: $(True_Memory_Size_MB < 0)?-100:(True_Memory_Size_MB * Target_Memory_Expansion_Factor / 10000)$.

Warehouse name

EFFECTIVE_MEMORY_SIZE_MB or EMSM

Target Compressed Memory Size MB attribute**Description**

The target size of the compressed memory pool (based on current compression ratio and expanded memory size).

Type

Real number (32-bit gauge) with two decimal places of precision with

enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-100)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

TARGET_COMPRESSED_MEM_SIZE_MB or TCMSM

Max Compressed Memory Size MB attribute

Description

The maximum possible size of the compressed memory pool in MB.

Type

Real number (32-bit gauge) with two decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-100)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

MAX_COMPRESSED_MEM_SIZE_MB or MCMSM

Minimum Uncompressed Memory Size MB attribute

Description

The minimum possible size of uncompressed memory in MB.

Type

Real number (32-bit gauge) with two decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-100)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

MIN_UNCOMPRESSED_MEM_SIZE_MB or MUMSM

Compressed Memory Size MB attribute

Description

The current size of the compressed memory pool in MB.

Type

Real number (32-bit gauge) with two decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-100)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

COMPRESSED_MEM_SIZE_MB or CMSM

Compressed Data Size MB attribute**Description**

The size of compressed memory after expansion (less any memory deficit).

Type

Real number (32-bit gauge) with two decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-100)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Source

The source for this attribute is derived: $(Effective_Memory_Size_MB < 0 \ || \ Uncompressed_Mem_Size_MB < 0 \ || \ Deficit_Memory_MB < 0) ? -100 : ((Effective_Memory_Size_MB * 100) - Uncompressed_Mem_Size_MB - Deficit_Memory_MB) / 100$.

Warehouse name

COMPRESSED_DATA_SIZE_MB or CDSM

Uncompressed Data Size MB attribute**Description**

The size of the uncompressed memory.

Type

Real number (32-bit gauge) with two decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-100)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Source

The source for this attribute is derived: $Uncompressed_Mem_Size_MB$.

Warehouse name

UNCOMPRESSED_DATA_SIZE_MB or UDSM

Compressed Memory In Use MB attribute**Description**

The amount of memory use in the compressed memory pool.

Type

Real number (32-bit gauge) with two decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-100)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

COMPRESSED_MEM_INUSE_MB or CMIM

Compressed Memory In use Pct attribute**Description**

The percentage of the compressed memory pool that is in use.

Type

Real number (32-bit gauge) with two decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-100)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

COMPRESSED_MEM_INUSE_PCT or CMIP

Compressed Memory Pct attribute**Description**

The percentage of true memory (compressed + uncompressed) used by the compressed memory pool.

Type

Real number (32-bit gauge) with two decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-100)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

COMPRESSED_MEM_PCT or CMP

Compressed Memory Free MB attribute**Description**

The amount of free memory in the compressed memory pool.

Type

Real number (32-bit gauge) with two decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-100)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

COMPRESSED_MEM_FREE_MB or CMFM

Compressed Memory Free Pct attribute**Description**

The percentage of free pages in the compressed memory pool.

Type

Real number (32-bit gauge) with two decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-100)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Source

The source for this attribute is derived: $(\text{Compressed_Mem_InUse_Pct} < 0)?-100:(10000 - \text{Compressed_Mem_InUse_Pct})$.

Warehouse name

COMPRESSED_MEM_FREE_PCT or CMFP

Compression Ratio attribute**Description**

The Compression Ratio is the ratio of memory size before compression to memory size after compression.

Type

Real number (32-bit gauge) with two decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-100)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

COMPRESSION_RATIO or CR

Compressed Memory Page Ins attribute**Description**

The number of page-ins per second to the compressed memory pool.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

COMPRESSED_MEM_PAGE_INS or CMPI

Compressed Memory Page Outs attribute**Description**

The number of page-outs per second from the compressed memory pool.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

COMPRESSED_MEM_PAGE_OUTS or CMPO

Compressed Number Of Working Pages attribute**Description**

The number of compressed working pages.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the

Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

COMPRESSED_NUM_WORKING_PAGES or CNWP

Uncompressed Memory Size MB attribute

Description

The current size of the uncompressed memory pool in MB.

Type

Real number (32-bit gauge) with two decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-100)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

UNCOMPRESSED_MEM_SIZE_MB or UMSM

Uncompressed Memory In Use MB attribute

Description

The total amount of memory in use in the uncompressed memory pool in MB.

Type

Real number (32-bit gauge) with two decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-100)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

UNCOMPRESSED_MEM_INUSE_MB or UMIM

Uncompressed Memory In Use Pct attribute

Description

The percentage of the uncompressed memory pool that is in use.

Type

Real number (32-bit gauge) with two decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-100)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

UNCOMPRESSED_MEM_INUSE_PCT or UMIP

Uncompressed Memory Free Pct attribute

Description

The percentage of the uncompressed pool that is free.

Type

Real number (32-bit gauge) with two decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-100)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Source

The source for this attribute is derived: $(\text{Uncompressed_Mem_InUse_Pct} < 0) ? -100 : (10000 - \text{Uncompressed_Mem_InUse_Pct})$.

Warehouse name

UNCOMPRESSED_MEM_FREE_PCT or UMFP

Uncompressed True Memory In Use Pct attribute

Description

The percentage of true memory (compressed + uncompressed) that is used by the uncompressed memory pool.

Type

Real number (32-bit gauge) with two decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-100)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

UNCOMPRESSED_TRUE_MEM_INUSE_PCT or UTMIP

Uncompressed Number of Working Pages attribute

Description

The number of uncompressed working pages.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

UNCOMPRESSED_NUM_WORKING_PAGES or UNWP

CPU Used Pct attribute

Description

The percentage of CPU used for memory expansion.

Type

Real number (32-bit gauge) with two decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-100)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

CPU_USED_PCT or CUP

Deficit Memory MB attribute

Description

The difference between desired memory expansion and actual memory expansion in MB.

Type

Real number (32-bit gauge) with two decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-100)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

DEFICIT_MEMORY_MB or DMM

Deficit Expansion Factor attribute

Description

The Deficit factor needed to reach the target expansion factor.

Type

Real number (32-bit gauge) with two decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-100)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

DEFICIT_EXPANSION_FACTOR or DEF

Active Users attribute group

This attribute group contains information about the users active on this system.

Historical group

This attribute group is eligible for use with Tivoli Data Warehouse.

Attribute descriptions

The following list contains information about each attribute in the Active Users attribute group:

Node attribute: This attribute is a key attribute.

Description

The managed system name of the agent.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

NODE

Timestamp attribute

Description

The local time at the agent when the data was collected.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

TIMESTAMP

User Name attribute: This attribute is a key attribute.

Description

The logon user name.

Type

String

Source

The source for this attribute is Script data.

Warehouse name

USER_NAME

tty attribute

Description

The name of the TTY the user is on.

Type

String

Source

The source for this attribute is Script data.

Warehouse name

TTY

Login Date Time attribute

Description

The time of day the user logged on.

Type

String

Source

The source for this attribute is Script data.

Warehouse name

LOGIN_DATE_TIME or LDT

Hostname attribute

Description

The name of the computer from which the user is logged in.

Type

String

Source

The source for this attribute is Script data.

Warehouse name

HOSTNAME

Idle Time attribute

Description

The number of minutes since a program last attempted to read from the terminal.

Type

String

Source

The source for this attribute is Script data.

Warehouse name

IDLE_TIME

JCPU attribute

Description

The system unit time used by all processes and their children on that terminal.

Type

String

Source

The source for this attribute is Script data.

Warehouse name

JCPU

PCPU attribute**Description**

The system unit time used by the currently active process.

Type

String

Source

The source for this attribute is Script data.

Warehouse name

PCPU

Current Process attribute**Description**

The name and arguments of the current process.

Type

String

Source

The source for this attribute is Script data.

Warehouse name

CURRENT_PROCESS or CP

AMS Pool attribute group

This attribute group contains information about the Active Memory Sharing (AMS) pool.

Historical group

This attribute group is eligible for use with Tivoli Data Warehouse.

Attribute descriptions

The following list contains information about each attribute in the AMS Pool attribute group:

Node attribute: This attribute is a key attribute.

Description

The managed system name of the agent.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

NODE

Timestamp attribute**Description**

The local time at the agent when the data was collected.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

TIMESTAMP

AMS Mode attribute**Description**

Indicates whether the LPAR is in AMS shared or dedicated mode.

Type

Integer with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)
- Dedicated (0)
- Shared (1)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

AMS_MODE

AMS Pool ID attribute: This attribute is a key attribute.

Description

The pool ID associated with the LPAR. All LPARs in AMS mode will have a pool ID of 0 until multiple pools are supported.

Type

Integer with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

AMS_POOL_ID or API

AMS Pool Size attribute

Description

AMS Memory pool size in GB.

Type

Real number (32-bit gauge) with two decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-100)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

AMS_POOL_SIZE or APS

AMS Physical Mem attribute

Description

Physical memory supporting AMS logical memory for the partition.

Type

Real number (32-bit gauge) with two decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-100)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

AMS_PHYSICAL_MEM or APM

AMS Mem Loaned attribute

Description

AMS logical memory loaned to the hypervisor.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

AMS_MEM_LOANED or AML

AMS Memory Entitlement attribute

Description

AMS memory entitlement of the partition (MB).

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

AMS_MEMORY_ENTITLEMENT or AME

AMS Memory Ent InUse attribute

Description

AMS memory entitlement of the partition in use (MB).

Type

Real number (32-bit gauge) with two decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-100)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

AMS_MEMORY_ENT_INUSE or AMEI

Hypervisor Page Ins attribute

Description

Number of hypervisor page-ins.

Type

Real number (32-bit gauge) with two decimal places of precision with

enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-100)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

HYPERVISOR_PAGE_INS or HPI

Hypervisor Page Ins Time attribute

Description

Time spent waiting for hypervisor page-ins in nanoseconds.

Type

Real number (32-bit gauge) with two decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-100)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

HYPERVISOR_PAGE_INS_TIME or HPIT

CPU Detail attribute group

This attribute group contains information for each CPU.

Historical group

This attribute group is eligible for use with Tivoli Data Warehouse.

Attribute descriptions

The following list contains information about each attribute in the CPU Detail attribute group:

Node attribute: This attribute is a key attribute.

Description

The managed system name of the agent.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

NODE

Timestamp attribute

Description

The local time at the agent when the data was collected.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

TIMESTAMP

CPU Number attribute: This attribute is a key attribute.

Description

The CPU identifier number.

Type

String

Warehouse name

CPU_NUMBER

User CPU Pct attribute**Description**

The time this processor spent executing in CPU user mode percentage. (usr)

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

USER_CPU_PCT or UCP

System CPU Pct attribute**Description**

The time this processor spent executing in CPU kernel mode percentage. (sys)

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

SYSTEM_CPU_PCT or SCP

IO Wait CPU Pct attribute**Description**

The time this processor spent waiting for IO percentage. (wait)

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

IO_WAIT_CPU_PCT or IWCP

Idle CPU Pct attribute**Description**

The time this processor spent executing in CPU idle mode percentage. (idl)

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)

- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

IDLE_CPU_PCT or ICP

Context Switches per Sec attribute

Description

The process context switches on this processor per second. (csw)

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

CONTEXT_SWITCHES_PER_SEC or CSPS

Syscalls per Sec attribute

Description

The system calls on this processor per second. (syscl)

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

SYSCALLS_PER_SEC or SPS

Reads per Sec attribute

Description

The read system calls on this processor per second. (sysread)

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

READS_PER_SEC or RPS

Writes per Sec attribute

Description

The write system calls on this processor per second. (syswrite)

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the

Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

WRITES_PER_SEC or WPS

Forks per Sec attribute

Description

The fork system calls on this processor per second. (sysfork)

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

FORKS_PER_SEC or FPS

Execs per Sec attribute

Description

The exec system calls on this processor per second. (sysexec)

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

EXECS_PER_SEC or EPS

Read Char per Sec attribute

Description

The KBs read through the read sys call on this processor per second. (readch_kb)

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

READ_CHAR_PER_SEC or RCPS

Write Char per Sec attribute

Description

The KBs written through the write sys call on this processor per second. (writtech_kb)

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

WRITE_CHAR_PER_SEC or WCPS

Inode Lookup per Sec attribute**Description**

The calls to i-node lookup routines for this processor per second. (iget)

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

INODE_LOOKUP_PER_SEC or ILPS

Path Name Lookup per Sec attribute**Description**

The calls to path name lookup routine for this processor per second. (namei)

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

PATH_NAME_LOOKUP_PER_SEC or PNLPS

Dir Blk Scans per Sec attribute**Description**

The directory blocks scanned for this processor per second. (dirblk)

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

DIR_BLK_SCANS_PER_SEC or DBSPS

Minor Page Faults attribute**Description**

The minor page faults per second. (minf)

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

MINOR_PAGE_FAULTS or MPF

Major Page Faults attribute**Description**

The major page faults per second. (majf)

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

MAJOR_PAGE_FAULTS or MPF0

Interrupts attribute**Description**

The hardware device interrupts per second. (intr)

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

INTERRUPTS

Involuntary Context Switches attribute**Description**

The involuntary context switches by process per second. (icsw)

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

INVOLUNTARY_CONTEXT_SWITCHES or ICS

Run Queue attribute

Description

The average number of processes on the run queue per second. (runq)

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

RUN_QUEUE

Logical Processor Affinity attribute

Description

The percentage of logical processor re-dispatches within the scheduling affinity domain 3. (lpa)

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

LOGICAL_PROCESSOR_AFFINITY or LPA

Message Ops attribute

Description

The number of IPC message operations per second. (msg)

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

MESSAGE_OPS or MO

Semaphore Ops attribute

Description

The number of IPC semaphore operations per second. (sema)

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

SEMAPHORE_OPS or SO

Blocks Read attribute

Description

The number of system block reads per second. (sysread)

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

BLOCKS_READ or BR

Blocks Write attribute

Description

The number of system block writes per second. (syswrite)

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

BLOCKS_WRITE or BW

Logical Read Requests attribute

Description

The number of logical read requests per second. (lread)

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

LOGICAL_READ_REQUESTS or LRR

Logical Write Requests attribute

Description

The number of logical write requests per second. (lwrite)

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the

Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

LOGICAL_WRITE_REQUESTS or LWR

Physical Reads attribute

Description

The number of physical read requests per second. (phread)

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

PHYSICAL_READS or PR

Physical Writes attribute

Description

The number of physical write requests per second. (phwrite)

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

PHYSICAL_WRITES or PW

Logical Context Switches attribute

Description

The number of logical context switches per second. (lcswh)

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

LOGICAL_CONTEXT_SWITCHES or LCS

Physical Consumption attribute

Description

The number of physical CPU units consumed by this logical CPU. (pc)

Type

Real number (32-bit gauge) with two decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-100)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

PHYSICAL_CONSUMPTION or PC

CPU Summary attribute group

This attribute group contains system-wide CPU usage information.

Historical group

This attribute group is eligible for use with Tivoli Data Warehouse.

Attribute descriptions

The following list contains information about each attribute in the CPU Summary attribute group:

Node attribute: This attribute is a key attribute.

Description

The managed system name of the agent.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

NODE

Timestamp attribute**Description**

The local time at the agent when the data was collected.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

TIMESTAMP

System Software Version attribute**Description**

The system software version identification.

Type

String

Warehouse name

SYSTEM_SOFTWARE_VERSION or SSV

Number of CPUs attribute**Description**

The number of logical CPUs that are active.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

NUMBER_OF_CPUS or NOC

User CPU Pct attribute

Description

The system-wide time spent executing in CPU user mode percentage.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

USER_CPU_PCT or UCP

System CPU Pct attribute

Description

The system-wide time spent executing in CPU kernel mode percentage.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

SYSTEM_CPU_PCT or SCP

IO Wait CPU Pct attribute

Description

The system-wide time waiting for CPU I/O percentage.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

IO_WAIT_CPU_PCT or IWCP

Idle CPU Pct attribute

Description

The system-wide time spent in CPU idle mode percentage.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)

- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

IDLE_CPU_PCT or ICP

Physical Consumption attribute

Description

The number of physical CPU units consumed by this LPAR. (pc) Consumed describes an amount of CPU an LPAR is keeping from another LPAR.

Type

Real number (32-bit gauge) with two decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-100)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

PHYSICAL_CONSUMPTION or PC

Donation Enablement attribute

Description

Status of the willingness of this LPAR to allow unused CPU cycles to be used by other LPARs [disabled,capable/disabled,enabled].

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- disable (0)
- capable (1)
- enable (2)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

DONATION_ENABLEMENT or DE

Donated Idle Cycles Pct attribute

Description

The percentage of physical processor that is used by explicitly donated idle cycles, for dedicated partitions only.

Type

Real number (32-bit gauge) with two decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-100)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

DONATED_IDLE_CYCLES_PCT or DICP

Donated Busy Cycles Pct attribute

Description

The percentage of physical processor that is used by donating busy cycles, for dedicated partitions only.

Type

Real number (32-bit gauge) with two decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-100)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

DONATED_BUSY_CYCLES_PCT or DBCP

Stolen Idle Cycles Pct attribute

Description

The percentage of physical processor that is comprised of idle cycles stolen by the hypervisor, for dedicated partitions only.

Type

Real number (32-bit gauge) with two decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-100)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

STOLEN_IDLE_CYCLES_PCT or SICP

Stolen Busy Cycles Pct attribute

Description

The percentage of physical processor that is comprised of busy cycles stolen by the hypervisor, for dedicated partitions only.

Type

Real number (32-bit gauge) with two decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-100)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

STOLEN_BUSY_CYCLES_PCT or SBCP

Hypervisor Calls attribute

Description

The number of hypervisor calls made during the monitoring period.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the

Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

HYPERVISOR_CALLS or HC

Time Spent in Hypervisor Pct attribute

Description

The percentage of time spent in the hypervisor during the monitoring period.

Type

Real number (32-bit gauge) with one decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-10)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

TIME_SPENT_IN_HYPERVISOR_PCT or TSIHP

Donating LPARs attribute

Description

The number of LPARs donating CPU cycles.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

DONATING_LPARS or DL

Average Operating Frequency GHz attribute

Description

The average operating frequency for the processor in GHz.

Type

Real number (32-bit gauge) with one decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

AVERAGE_OPERATING_FREQUENCY_GHZ or AOFG

Average Operating Frequency Pct attribute

Description

The operating frequency as a percentage of base processor frequency.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

AVERAGE_OPERATING_FREQUENCY_PCT or AOFPP

Actual Average Physical CPU User Mode attribute**Description**

Average CPU units charged to User mode based on the POWER User mode PURR register.

Type

Real number (32-bit gauge) with three decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

ACTUAL_AVERAGE_PHYSICAL_CPU_USER or AAPCU

Actual Average Physical CPU System Mode attribute**Description**

Average CPU units charged to System mode based on the POWER System mode PURR register.

Type

Real number (32-bit gauge) with three decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

ACTUAL_AVERAGE_PHYSICAL_CPU_SYSTEM or AAPCS

Actual Average Physical CPU Idle Mode attribute**Description**

Average CPU units charged to Idle mode based on the POWER Idle mode PURR register.

Type

Real number (32-bit gauge) with three decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

ACTUAL_AVERAGE_PHYSICAL_CPU_IDLE or AAPCI

Actual Average Physical CPU Wait Mode attribute

Description

Average CPU units charged to Wait mode based on the POWER Wait mode PURR register.

Type

Real number (32-bit gauge) with three decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

ACTUAL_AVERAGE_PHYSICAL_CPU_WAIT or AAPCW

Normalized Average Physical CPU User Mode attribute

Description

Average Normalized CPU units charged to User mode based on the POWER User mode SPURR register.

Type

Real number (32-bit gauge) with three decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

NORMALIZED_AVERAGE_PHYSICAL_CPU_USER or NAPCU

Normalized Average Physical CPU System Mode attribute

Description

Average Normalized CPU units charged to System mode based on the POWER System mode SPURR register.

Type

Real number (32-bit gauge) with three decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

NORMALIZED_AVERAGE_PHYSICAL_CPU_SYSTEM or NAPCS

Normalized Average Physical CPU Idle Mode attribute**Description**

Average Normalized CPU units charged to Idle mode based on the POWER Idle mode SPURR register.

Type

Real number (32-bit gauge) with three decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

NORMALIZED_AVERAGE_PHYSICAL_CPU_IDLE or NAPCI

Normalized Average Physical CPU Wait Mode attribute**Description**

Average Normalized CPU units charged to Wait mode based on the POWER Wait mode SPURR register.

Type

Real number (32-bit gauge) with three decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

NORMALIZED_AVERAGE_PHYSICAL_CPU_WAIT or NAPCW

Defined Users attribute group

This attribute group contains information about the users defined on this system.

Historical group

This attribute group is eligible for use with Tivoli Data Warehouse.

Attribute descriptions

The following list contains information about each attribute in the Defined Users attribute group:

Node attribute: This attribute is a key attribute.

Description

The managed system name of the agent.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

NODE

Timestamp attribute**Description**

The local time at the agent when the data was collected.

Type
String
Source
The source for this attribute is the agent.
Warehouse name
TIMESTAMP

User Name attribute: This attribute is a key attribute.

Description
The logon user name.
Type
String
Source
The source for this attribute is Script data.
Warehouse name
USER_NAME

Roles attribute

Description
The roles defined for this user ID.
Type
String
Source
The source for this attribute is Script data.
Warehouse name
ROLES

Account Locked attribute

Description
An indicator of whether or not the user account has been locked.
Type
String
Source
The source for this attribute is Script data.
Warehouse name
ACCOUNT_LOCKED or AL

Expires attribute

Description
The expiration date of this user ID.
Type
String
Source
The source for this attribute is Script data.
Warehouse name
EXPIRES

Loginretries attribute

Description
The number of incorrect logon attempts before the user ID is locked.
Type
Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Value Exceeds Maximum (2147483647)
- Value Exceeds Minimum (-2147483648)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.
Source
The source for this attribute is Script data.

Warehouse name
LOGINRETRIES or L

Devices attribute group

This attribute group contains network and storage device status information.

Historical group

This attribute group is eligible for use with Tivoli Data Warehouse.

Attribute descriptions

The following list contains information about each attribute in the Devices attribute group:

Node attribute: This attribute is a key attribute.

Description

The managed system name of the agent.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

NODE

Timestamp attribute

Description

The local time at the agent when the data was collected.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

TIMESTAMP

Name attribute: This attribute is a key attribute.

Description

The name of the device.

Type

String

Warehouse name

NAME

Parent attribute: This attribute is a key attribute.

Description

The parent device name.

Type

String

Warehouse name

PARENT

Type attribute

Description

The device type.

Type

String

Warehouse name

TYPE

State attribute

Description

The device status.

Type

String

Warehouse name

STATE

Class attribute

Description
The class of the device.

Type
String

Warehouse name
CLASS

Disks attribute group

This attribute group contains system disk information.

Historical group

This attribute group is eligible for use with Tivoli Data Warehouse.

Attribute descriptions

The following list contains information about each attribute in the Disks attribute group:

Node attribute: This attribute is a key attribute.

Description
The managed system name of the agent.

Type
String

Source
The source for this attribute is the agent.

Warehouse name
NODE

Timestamp attribute

Description
The local time at the agent when the data was collected.

Type
String

Source
The source for this attribute is the agent.

Warehouse name
TIMESTAMP

Name attribute: This attribute is a key attribute.

Description
The device name.

Type
String

Warehouse name
NAME

Parent attribute: This attribute is a key attribute.

Description
The parent device name.

Type
String

Warehouse name
PARENT

Type attribute

Description
The type of device.

Type
String

Warehouse name
TYPE

Active Disk Pct attribute

Description

The percentage of time the physical disk was active (bandwidth utilization for the drive). This percentage is valid for the Disk type.

Type

Real number (32-bit gauge) with one decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-10)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

ACTIVE_DISK_PCT or ADP

Transfers Bytes per Sec attribute**Description**

The amount of data transferred (read or written) to the drive in bytes per second. This percentage is valid for Adapter and Disk types.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

TRANSFERS_BYTES_PER_SEC or TBPS

Transfers KB per Sec attribute**Description**

The amount of data transferred (read or written) to the drive in KBs per second. This value is valid for the Adapter type.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

TRANSFERS_KB_PER_SEC or TKPS

Transfers per Sec attribute**Description**

The number of transfers per second issued to the physical disk. A transfer is an I/O request to the physical disk, which can be a combination of multiple logical requests. A transfer is of indeterminate size and valid for all storage device types.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

TRANSFERS_PER_SEC or TPS

Read KB per Sec attribute

Description

The total number of KBs read. This number is valid for all storage device types.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

READ_KB_PER_SEC or RKPS

Written KB per Sec attribute

Description

The total number of KBs written. This number is valid for all storage device types.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

WRITTEN_KB_PER_SEC or WKPS

Read Transfers per Sec attribute

Description

The number of read transfers per second. This is number valid for all storage device types, except Adapter.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

READ_TRANSFERS_PER_SEC or RTPS

Avg Read Transfer MS attribute

Description

The average service time in milliseconds per read transfer. This time is valid for all storage device types, except Adapter.

Type

Real number (32-bit gauge) with one decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-10)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

AVG_READ_TRANSFER_MS or ARTM

Min Read Service MS attribute**Description**

The minimum read service time in milliseconds. This time is valid for all storage device types, except Adapter.

Type

Real number (32-bit gauge) with one decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-10)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

MIN_READ_SERVICE_MS or MRSM

Max Read Service MS attribute**Description**

The maximum read service time in milliseconds. This time is valid for all storage device types, except Adapter.

Type

Real number (32-bit gauge) with one decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-10)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

MAX_READ_SERVICE_MS or MRSM0

Read Timeouts per Sec attribute**Description**

The number of read timeouts per second. This number is valid for the Disk type.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

READ_TIMEOUTS_PER_SEC or RTPSO

Failed Read per Sec attribute

Description

The number of failed read requests per second. This number is valid for the Disk type.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

FAILED_READ_PER_SEC or FRPS

Write Transfers per Sec attribute

Description

The number of write transfers per second. This number is valid for all storage device types, except Adapter.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

WRITE_TRANSFERS_PER_SEC or WTPS

Avg Write Transfer MS attribute

Description

The average service time in milliseconds per write transfer. This time is valid for all storage device types, except Adapter.

Type

Real number (32-bit gauge) with one decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-10)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

AVG_WRITE_TRANSFER_MS or AWTM

Min Write Service MS attribute

Description

The minimum write service time in milliseconds. This time is valid for all storage device types, except Adapter.

Type

Real number (32-bit gauge) with one decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-10)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

MIN_WRITE_SERVICE_MS or MWSM

Max Write Service MS attribute**Description**

The maximum write service time in milliseconds. This time is valid for all storage device types, except Adapter.

Type

Real number (32-bit gauge) with one decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-10)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

MAX_WRITE_SERVICE_MS or MWSM0

Write Timeout per Sec attribute**Description**

The number of write timeouts per second. This number is valid for the Disk type.

Type

Real number (32-bit gauge) with one decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-10)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

WRITE_TIMEOUT_PER_SEC or WTPS0

Failed Writes per Sec attribute**Description**

The number of failed write requests per second. This number is valid for the Disk type.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

FAILED_WRITES_PER_SEC or FWPS

Avg Request In WaitQ MS attribute

Description

The average time in milliseconds spent by a transfer request in the wait queue. This time is valid for all storage device types, except Adapter.

Type

Real number (32-bit gauge) with one decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-10)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

AVG_REQUEST_IN_WAITQ_MS or ARIWM

Min Request In WaitQ MS attribute

Description

The minimum time in milliseconds spent by a transfer request in the wait queue. This time is valid for all storage device types, except Adapter.

Type

Real number (32-bit gauge) with one decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-10)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

MIN_REQUEST_IN_WAITQ_MS or MRIWM

Max Request In WaitQ MS attribute

Description

The maximum time in milliseconds spent by a transfer request in the wait queue. This time is valid for all storage device types, except Adapter.

Type

Real number (32-bit gauge) with one decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-10)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

MAX_REQUEST_IN_WAITQ_MS or MRIWM0

Avg WaitQ Size attribute

Description

The average wait queue size. This size is valid for all storage device types, except Adapter.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

AVG_WAITQ_SIZE or AWS

Avg ServiceQ Size attribute

Description

The average service queue size. This size is valid for all storage device types, except Adapter.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

AVG_SERVICEQ_SIZE or ASS

ServiceQ Full per Sec attribute

Description

The number of times the service queue becomes full (the disk is not accepting any more service requests) per second. This number is valid for all storage device types, except Adapter.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

SERVICEQ_FULL_PER_SEC or SFPS

File Systems attribute group

This attribute group contains file system information.

Historical group

This attribute group is eligible for use with Tivoli Data Warehouse.

Attribute descriptions

The following list contains information about each attribute in the File Systems attribute group:

Node attribute: This attribute is a key attribute.

Description

The managed system name of the agent.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

NODE

Timestamp attribute

Description

The local time at the agent when the data was collected.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

TIMESTAMP

Name attribute: This attribute is a key attribute.

Description

The file system name.

Type

String

Warehouse name

NAME

Mount Point attribute

Description

The file system mount point.

Type

String

Warehouse name

MOUNT_POINT or MP

Volume Group Name attribute

Description

The name of the volume group.

Type

String

Warehouse name

VOLUME_GROUP_NAME or VGN

Size MB attribute

Description

The file system size in MB.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

SIZE_MB

Free MB attribute

Description

The file system free space in MB.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

FREE_MB

Used MB attribute

Description

The file system used space in MB.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

USED_MB

Free Pct attribute

Description

The file system free space percentage.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

FREE_PCT

Used Pct attribute

Description

The file system used space percentage.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name
USED_PCT

Internet Protocol Detail attribute group

This attribute group contains IP interface details.

Historical group

This attribute group is eligible for use with Tivoli Data Warehouse.

Attribute descriptions

The following list contains information about each attribute in the Internet Protocol Detail attribute group:

Node attribute: This attribute is a key attribute.

Description

The managed system name of the agent.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

NODE

Timestamp attribute

Description

The local time at the agent when the data was collected.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

TIMESTAMP

Name attribute: This attribute is a key attribute.

Description

The interface name.

Type

String

Warehouse name

NAME

Packets Received per Sec attribute

Description

The IP packets received per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

PACKETS_RECEIVED_PER_SEC or PRPS

Ioctet Received KB per Sec attribute

Description

The KBs received per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the

Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

IOCTET_RECEIVED_KB_PER_SEC or IRKPS

Input Errors per Sec attribute

Description

The input errors per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

INPUT_ERRORS_PER_SEC or IEPS

Multicast Pkt Received per Sec attribute

Description

The multicast packets received per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

MULTICAST_PKT_RECEIVED_PER_SEC or MPRPS

Input Packets Dropped per Sec attribute

Description

The input packets dropped per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

INPUT_PACKETS_DROPPED_PER_SEC or IPDPS

Packets Transmitted per Sec attribute

Description

The packets transmitted per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

PACKETS_TRANSMITTED_PER_SEC or PTPS

Ioctet Transmitted KB per Sec attribute**Description**

The KBs transmitted per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

IOCTET_TRANSMITTED_KB_PER_SEC or ITKPS

Output Errors per Sec attribute**Description**

The output errors per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

OUTPUT_ERRORS_PER_SEC or OEPS

Multicast Pkt Transmitted per Sec attribute**Description**

The multicast packets transmitted per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

MULTICAST_PKT_TRANSMITTED_PER_SEC or MPTPS

Internet Protocol Summary attribute group

This attribute group contains system-wide IP networking information.

Historical group

This attribute group is eligible for use with Tivoli Data Warehouse.

Attribute descriptions

The following list contains information about each attribute in the Internet Protocol Summary attribute group:

Node attribute: This attribute is a key attribute.

Description

The managed system name of the agent.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

NODE

Timestamp attribute

Description

The local time at the agent when the data was collected.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

TIMESTAMP

Packets Received per Sec attribute

Description

The IP packets received per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

PACKETS_RECEIVED_PER_SEC or PRPS

Frag Received per Sec attribute

Description

The IP fragments received per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

FRAG_RECEIVED_PER_SEC or FRPS

Packets Forwarded per Sec attribute

Description

The IP packets forwarded per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

PACKETS_FORWARDED_PER_SEC or PFPS

Received Datagrams per Sec attribute**Description**

The successfully received IP datagrams per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

RECEIVED_DATAGRAMS_PER_SEC or RDPS

Transmitted Datagrams per Sec attribute**Description**

The transmitted IP datagrams per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

TRANSMITTED_DATAGRAMS_PER_SEC or TDPS

Total Packets Reassembled per Sec attribute**Description**

The IP packets successfully reassembled per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

TOTAL_PACKETS_REASSEMBLED_PER_SEC or TPRPS

Frag Output Packets per Sec attribute**Description**

The output packets successfully fragmented per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

FRAG_OUTPUT_PACKETS_PER_SEC or FOPPS

Logical Partition attribute group

This attribute group contains information about the logical partition.

Historical group

This attribute group is eligible for use with Tivoli Data Warehouse.

Attribute descriptions

The following list contains information about each attribute in the Logical Partition attribute group:

Node attribute: This attribute is a key attribute.**Description**

The managed system name of the agent.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

NODE

Timestamp attribute**Description**

The local time at the agent when the data was collected.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

TIMESTAMP

User CPU Pct attribute**Description**

The LPAR system time spent in CPU User mode percentage.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name
USER_CPU_PCT or UCP

System CPU Pct attribute

Description

The LPAR system time spent in CPU System mode percentage.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name
SYSTEM_CPU_PCT or SCP

IO Wait CPU Pct attribute

Description

The LPAR system time spent in CPU I/O Wait mode percentage.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name
IO_WAIT_CPU_PCT or IWCP

Idle CPU Pct attribute

Description

The LPAR system time spent in CPU Idle mode percentage.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name
IDLE_CPU_PCT or ICP

Entitlement attribute

Description

The number of entitlement units assigned to this LPAR. (ent)

Type

Real number (32-bit gauge) with one decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-10)
- Value Exceeds Minimum (-2147483648)

- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

ENTITLEMENT or E

Total Used Pct attribute

Description

The percentage of the Total System CPU being used by this LPAR.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

TOTAL_USED_PCT or TUP

Entitlement Used Pct attribute

Description

The percentage of the given CPU Entitlement being used by this LPAR. (entc)

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

ENTITLEMENT_USED_PCT or EUP

LPAR Number attribute

Description

The LPAR identification number assigned to this LPAR.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

LPAR_NUMBER or LN

Shared Mode attribute

Description

The shared Logical Partition mode (dedicated or shared).

Type

String

Warehouse name

SHARED_MODE or SM

Capped Mode attribute

Description

The capped Logical Partition mode (uncapped or capped).

Type

String

Warehouse name

CAPPED_MODE or CM

SMT Mode attribute

Description

The simultaneous multi-threading mode (off or on).

Type

String

Warehouse name

SMT_MODE

Number of Physical CPUs attribute

Description

The number of active licensed physical CPUs. (pcpu)

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

NUMBER_OF_PHYSICAL_CPUS or NOPC

Number of Virtual CPUs attribute

Description

The number of current online virtual CPUs. (vcpu)

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

NUMBER_OF_VIRTUAL_CPUS or NOVC

Number of Logical CPUs attribute

Description

The number of current online logical CPUs. (lcpu)

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

NUMBER_OF_LOGICAL_CPUS or NOLC

Available CPUs in Pool attribute**Description**

The number of CPUs that are available for allocation.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

AVAILABLE_CPUS_IN_POOL or ACIP

Number of Physical CPUs in Shared Pool attribute**Description**

The number of physical CPUs in the shared pool.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

NUMBER_OF_PHYSICAL_CPUS_IN_SHARED_POOL or NOPCISP

Busy Pct attribute**Description**

The logical busy time percentage. (%lbusy)

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

BUSY_PCT

Phys Busy Pct attribute**Description**

The physical busy time of a full processor percentage. (pbusy)

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

PHYS_BUSY_PCT or PBP

Virt Context CPU Switches per Sec attribute

Description

The virtual CPU context switches per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

VIRT_CONTEXT_CPU_SWITCHES_PER_SEC or VCCSPS

Max Memory attribute

Description

The maximum amount of memory that this LPAR can support in MB.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

MAX_MEMORY

Min Memory attribute

Description

The minimum amount of memory that this LPAR can support in MB.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

MIN_MEMORY

Max Phys CPUs attribute

Description

The maximum number of physical CPUs in the system.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)

- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

MAX_PHYS_CPUS or MPC

Min Virt CPUs attribute

Description

The minimum number of virtual CPUs in this LPAR.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

MIN_VIRT_CPUS or MVC

Max Virt CPUs attribute

Description

The maximum number of virtual CPUs in this LPAR.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

MAX_VIRT_CPUS or MVC0

Min CPU Capacity attribute

Description

The minimum processor capacity (CPU units: 100 per processor).

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

MIN_CPU_CAPACITY or MCC

Max CPU Capacity attribute

Description

The maximum processor capacity (CPU units: 100 per processor).

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the

Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

MAX_CPU_CAPACITY or MCC0

CPU Capacity Increment attribute

Description

The processor capacity change granule (CPU units: 100 per processor).

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

CPU_CAPACITY_INCREMENT or CCI

Online Mem attribute

Description

The amount of current online memory in MB.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

ONLINE_MEM

Max Dispatch Latency attribute

Description

The maximum latency between dispatches in nanoseconds.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

MAX_DISPATCH_LATENCY or MDL

Unallocated CPU In Pool attribute

Description

The unallocated capacity available in the shared pool.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

UNALLOCATED_CPU_IN_POOL or UCIP

CPU Entitlement attribute**Description**

The entitled processor capacity for the partition.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

CPU_ENTITLEMENT or CE

Capacity Weight attribute**Description**

The relative weight between 0 and 255 that is used to determine how much extra CPU capacity this LPAR is to receive.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

CAPACITY_WEIGHT or CW

Min Req Virt CPU attribute**Description**

The minimum required virtual processor capacity.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

MIN_REQ_VIRT_CPU or MRVC

Phantom Interrupts attribute

Description

The number of phantom interrupts.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

PHANTOM_INTERRUPTS or PI

Entitlement Pct attribute

Description

The entitlement as a percentage.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

ENTITLEMENT_PCT or EP

Num Hypervisor Calls per Sec attribute

Description

The number of hypervisor calls per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

NUM_HYPERVISOR_CALLS_PER_SEC or NHCPs

Time In Hypervisor Pct attribute

Description

The time spent in the hypervisor percentage.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name
TIME_IN_HYPERVISOR_PCT or TIHP

Machine ID attribute

Description
The frame hardware ID to which this LPAR belongs.

Type
String

Warehouse name
MACHINE_ID

Uptime attribute

Description
The period of time this LPAR has been operational.

Type
String

Warehouse name
UPTIME

Hostname attribute

Description
The host name of the LPAR.

Type
String

Warehouse name
HOSTNAME

Physical CPU Units Used attribute

Description
The number of physical CPU units that are busy on this LPAR. (physB) Busy describes an amount of CPU that is used for executing System + User processes (actually doing work). CPU units used for Idle and Wait processes are not counted.

Type
Real number (32-bit gauge) with two decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-100)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name
PHYSICAL_CPU_UNITS_USED or PCUU

Available CPU Units in Pool attribute

Description
The number of physical CPU units that are available for allocation from the shared pool. (app)

Type
Real number (32-bit gauge) with two decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-100)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

AVAILABLE_CPU_UNITS_IN_POOL or ACUIP

Physical CPU Size of Shared Pool attribute

Description

The number of physical CPU units in the shared pool. (psize)

Type

Real number (32-bit gauge) with two decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-100)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

PHYSICAL_CPU_SIZE_OF_SHARED_POOL or PCSOSP

Last Machine ID attribute

Description

The previous frame hardware ID of this LPAR before it was migrated to the current frame. This attribute is cached for 5 minutes after the LPAR migration is detected to allow a situation to discover and report that the LPAR had been migrated.

Type

String

Warehouse name

LAST_MACHINE_ID or LMI

Max CPU Cap Used Pct attribute

Description

The percentage of maximum physical CPU available to this LPAR that was actually used. For capped LPARs this is the same as CPU_Phys_Ent_Pct.

Type

Real number (32-bit gauge) with two decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-100)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

MAX_CPU_CAP_USED_PCT or MCCUP

CPU Pool ID attribute

Description

The ID of the Shared Processor Pool.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

POOLID

Pool Entitlement attribute

Description

The entitled capacity of the pool.

Type

Real number (32-bit gauge) with two decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-100)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

POOL_ENTITLEMENT or PE

Maximum Pool Capacity attribute

Description

The maximum pool capacity.

Type

Real number (32-bit gauge) with two decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-100)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

MAXIMUM_POOL_CAPACITY or MPC0

SMT Threads attribute

Description

The number of threads per CPU.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

SMT_THREADS or ST

Entitlement attribute

Description

The number of entitlement units assigned to this LPAR. (ent)

Type

Real number (32-bit gauge) with two decimal places of precision with

enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-100)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

ENTITLEMENT_2 or E2

Old Machine ID attribute

Description

The nonunique frame hardware ID to which this LPAR belongs from xutsname.nid.

Type

String

Warehouse name

OLD_MACHINE_ID or OMI

Logical Volumes attribute group

This attribute group contains logical volume information.

Historical group

This attribute group is eligible for use with Tivoli Data Warehouse.

Attribute descriptions

The following list contains information about each attribute in the Logical Volumes attribute group:

Node attribute: This attribute is a key attribute.

Description

The managed system name of the agent.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

NODE

Timestamp attribute

Description

The local time at the agent when the data was collected.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

TIMESTAMP

Name attribute: This attribute is a key attribute.

Description

The name of the logical volume.

Type

String

Warehouse name

NAME

State attribute

Description

The state of the logical volume.

Type	String
Warehouse name	STATE
<u>Volume Group Name attribute</u>	
Description	The name of the volume group.
Type	String
Warehouse name	VOLUME_GROUP_NAME or VGN
<u>Type attribute</u>	
Description	The logical volume type.
Type	String
Warehouse name	TYPE
<u>Mount Point attribute</u>	
Description	The file system mount point for the logical volume.
Type	String
Warehouse name	MOUNT_POINT or MP
<u>Size MB attribute</u>	
Description	The size of the logical volume in MB.
Type	Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined: <ul style="list-style-type: none"> • Not Collected (-1) • Value Exceeds Minimum (-2147483648) • Value Exceeds Maximum (2147483647) Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.
Warehouse name	SIZE_MB

MPIO Attributes attribute group

This attribute group contains Multi Path I/O attribute information.

Historical group

This attribute group is eligible for use with Tivoli Data Warehouse.

Attribute descriptions

The following list contains information about each attribute in the MPIO Attributes attribute group:

Node attribute: This attribute is a key attribute.

Description

The managed system name of the agent.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

NODE

Timestamp attribute

Description

The local time at the agent when the data was collected.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

TIMESTAMP

Device Name attribute: This attribute is a key attribute.

Description

The name of the storage device.

Type

String

Warehouse name

DEVICE_NAME or DN

Attribute attribute: This attribute is a key attribute.

Description

The name of the attribute.

Type

String

Warehouse name

ATTRIBUTE

Value attribute

Description

The value of the attribute.

Type

String

Warehouse name

VALUE

Description attribute

Description

The description of the attribute.

Type

String

Warehouse name

DESCRIPTION or D

User Settable attribute

Description

Whether or not the attribute can be set by the user.

Type

String

Warehouse name

USER_SETTABLE or US

MPIO Status attribute group

This attribute group contains Multi-Path I/O status information.

Historical group

This attribute group is eligible for use with Tivoli Data Warehouse.

Attribute descriptions

The following list contains information about each attribute in the MPIO Status attribute group:

Node attribute: This attribute is a key attribute.

Description

The managed system name of the agent.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

NODE

Timestamp attribute**Description**

The local time at the agent when the data was collected.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

TIMESTAMP

Device Name attribute: This attribute is a key attribute.**Description**

The name of the device.

Type

String

Warehouse name

DEVICE_NAME or DN

Parent attribute: This attribute is a key attribute.**Description**

The parent device of the current device.

Type

String

Warehouse name

PARENT

Path Status attribute**Description**

The current status of the path.

Type

String

Warehouse name

PATH_STATUS or PS

Status attribute**Description**

The operational status of the device.

Type

String

Warehouse name

STATUS

Connection attribute: This attribute is a key attribute.**Description**

The connection ID of the SCSI device.

Type

String

Warehouse name

CONNECTION

Network Adapters Rates attribute group

This attribute group contains network adapter rate information.

Historical group

This attribute group is eligible for use with Tivoli Data Warehouse.

Attribute descriptions

The following list contains information about each attribute in the Network Adapters Rates attribute group:

Node attribute: This attribute is a key attribute.

Description

The managed system name of the agent.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

NODE

Timestamp attribute

Description

The local time at the agent when the data was collected.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

TIMESTAMP

Name attribute: This attribute is a key attribute.

Description

The name of the adapter.

Type

String

Warehouse name

NAME

Parent attribute: This attribute is a key attribute.

Description

The parent adapter name.

Type

String

Warehouse name

PARENT

Type attribute

Description

The type of adapter.

Type

String

Warehouse name

TYPE

Bytes Sent per Sec attribute

Description

The number of bytes per second transmitted successfully by the device.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

BYTES_SENT_PER_SEC or BSPS

Pkts Sent per Sec attribute

Description

The number of packets per second transmitted successfully by the device.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

PKTS_SENT_PER_SEC or PSPS

Pkts Sent Errors per Sec attribute

Description

The number of output errors per second encountered on this device.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

PKTS_SENT_ERRORS_PER_SEC or PSEPS

Sent Pkts Dropped per Sec attribute

Description

The number of packets per second accepted by the device driver for transmission and not given to the device for any reason.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

SENT_PKTS_DROPPED_PER_SEC or SPDPS

Broadcast Pkts Sent per Sec attribute

Description

The number of broadcast packets per second transmitted without any error.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

BROADCAST_PKTS_SENT_PER_SEC or BPSPS

Multicast Pkts Sent per Sec attribute

Description

The number of multicast packets per second transmitted without any error.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

MULTICAST_PKTS_SENT_PER_SEC or MPSPS

Sent Interrupts per Sec attribute

Description

The number of transmit interrupts per second received by the driver from the adapter.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

SENT_INTERRUPTS_PER_SEC or SIPS

Bytes Recvd per Sec attribute

Description

The number of bytes received successfully by the device per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

BYTES_RECVD_PER_SEC or BRPS

Pkts Recvd per Sec attribute

Description

The number of packets received successfully by the device per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

PKTS_RECVD_PER_SEC or PRPS

Pkts Recv Errors per Sec attribute**Description**

The number of input errors encountered on this device per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

PKTS_RECV_ERRORS_PER_SEC or PREPS

Bad Pkts Recvd per Sec attribute**Description**

The number of bad packets received by the device driver per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

BAD_PKTS_RECVD_PER_SEC or BPRPS

Recv Pkts Dropped per Sec attribute**Description**

The number of packets received by the device driver (per second) from this device and not given to a network driver for any reason.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

RECV_PKTS_DROPPED_PER_SEC or RPDPS

Broadcast Pkts Recvd per Sec attribute

Description

The number of broadcast packets received per second without any error.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

BROADCAST_PKTS_RECVD_PER_SEC or BPRPS0

Multicast Pkts Recvd per Sec attribute

Description

The number of multicast packets received per second without any error.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

MULTICAST_PKTS_RECVD_PER_SEC or MPRPS

Recv Interrupts per Sec attribute

Description

The number of interrupts received per second by the driver from the adapter.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

RECV_INTERRUPTS_PER_SEC or RIPS

TransmitsQ per Sec attribute

Description

The number of pending outgoing packets per second on either the software transmit queue or the hardware transmit queue.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

TRANSMITSQ_PER_SEC or TPS

Max TransmitsQ per Sec attribute

Description

The maximum number of outgoing packets per second ever queued to the software transmit queue.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

MAX_TRANSMITSQ_PER_SEC or MTPS

Qoverflow per Sec attribute

Description

The number of outgoing packets per second that have overflowed the software transmit queue.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

QOVERFLOW_PER_SEC or QPS

Real Pkts Recvd per Sec attribute

Description

The number of packets received on the physical network per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

REAL_PKTS_RECVD_PER_SEC or RPRPS

Real Pkts Bridged per Sec attribute

Description

The number of packets received per second on the physical network that were bridged to the virtual network.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the

Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

REAL_PKTS_BRIDGED_PER_SEC or RPBPS

Real Pkts Consumed per Sec attribute

Description

The number of packets received per second on the physical network that were addressed to the interface configured over the shared ethernet adapter.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

REAL_PKTS_CONSUMED_PER_SEC or RPCPS

Real Pkts Fragmented per Sec attribute

Description

The number of packets received per second on the physical network that were fragmented before being bridged to the virtual network because they were bigger than the Maximum Transmission Unit (MTU) for the outgoing adapter.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

REAL_PKTS_FRAGMENTED_PER_SEC or RPFPS

Real Pkts Sent per Sec attribute

Description

The number of packets sent per second on the physical network. Includes packets sent from the interface configured over the shared ethernet adapter as well as each packet bridged from the virtual network to the physical network (including fragments).

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

REAL_PKTS_SENT_PER_SEC or RPSPS

Real Pkts Dropped per Sec attribute

Description

The number of packets received per second on the physical network that were dropped.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

REAL_PKTS_DROPPED_PER_SEC or RPDPS0

Virtual Pkts Recvd per Sec attribute

Description

The number of packets received per second on the virtual network, for example, on all of the virtual adapters.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

VIRTUAL_PKTS_RECVD_PER_SEC or VPRPS

Virtual Pkts Bridged per Sec attribute

Description

The number of packets received per second on the virtual network that were bridged to the physical network.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

VIRTUAL_PKTS_BRIDGED_PER_SEC or VPBPS

Virtual Pkts Consumed per Sec attribute

Description

The number of packets received per second on the virtual network that were addressed to the interface configured over the shared ethernet adapter.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

VIRTUAL_PKTS_CONSUMED_PER_SEC or VPCPS

Virtual Pkts Fragmented per Sec attribute**Description**

The number of packets received per second on the virtual network that were fragmented before being bridged to the physical network because they were bigger than the Maximum Transmission Unit (MTU) of the outgoing adapter.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

VIRTUAL_PKTS_FRAGMENTED_PER_SEC or VPFPS

Virtual Pkts Sent per Sec attribute**Description**

The number of packets sent on the virtual network per second. Includes packets sent from the interface configured over the shared ethernet adapter as well as each packet bridged from the physical network to the virtual network (including fragments).

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

VIRTUAL_PKTS_SENT_PER_SEC or VPSPS

Virtual Pkts Dropped per Sec attribute**Description**

The number of packets received per second on the virtual network that were dropped.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)

- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

VIRTUAL_PKTS_DROPPED_PER_SEC or VPDPS

Output Pkts Generated per Sec attribute

Description

The number of packets with a valid VLAN tag or no VLAN tag sent out of the interface configured over the SEA per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

OUTPUT_PKTS_GENERATED_PER_SEC or OPGPS

Output Pkts Dropped per Sec attribute

Description

The number of packets sent out of the interface configured over the shared ethernet adapter that are dropped because of an incorrect VLAN tag per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

OUTPUT_PKTS_DROPPED_PER_SEC or OPDPS

Output Pkts Failures per Sec attribute

Description

The number of packets that cannot be sent because of underlying device errors per second. Includes errors sending on the physical network and virtual network including fragments and ICMP error packets generated by the SEA.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

OUTPUT_PKTS_FAILURES_PER_SEC or OPFPFS

Mem Alloc Failures per Sec attribute

Description

The number of packets that cannot be sent per second because there was insufficient network memory to complete an operation.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

MEM_ALLOC_FAILURES_PER_SEC or MAFPS

ICMP Error Pkts Sent per Sec attribute**Description**

The number of ICMP error packets sent per second. Includes ICMP error packets successfully sent when a big packet cannot be fragmented because the Don't Fragment bit was set.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

ICMP_ERROR_PKTS_SENT_PER_SEC or IEPSPS

Non IP Pkts Larger Than MTU per Sec attribute**Description**

The number of packets that cannot be sent per second because they were bigger than the Maximum Transmission Unit (MTU) of the outgoing adapter and cannot be fragmented because they were not IP packets.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

NON_IP_PKTS_LARGER_THAN_MTU_PER_SEC or NIPLTMPS

ThreadQ Overflow Pkts per Sec attribute**Description**

The number of packets that were dropped from the thread queues per second because there was no space to accommodate a newly-received packet.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

THREADQ_OVERFLOW_PKTS_PER_SEC or TOPPS

HA Keep Alive Pkts per Sec attribute

Description

The number of high availability keepalive packets received on the control channel per second. Keepalive packets are received on the backup shared ethernet adapter while the primary SEA is active.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

HA_KEEP_ALIVE_PKTS_PER_SEC or HKAPPS

HA Recovery Pkts per Sec attribute

Description

The number of high availability recovery packets received on the control channel per second. Recovery packets are sent by the primary shared ethernet adapter when it recovers from a failure and is ready to be active again.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

HA_RECOVERY_PKTS_PER_SEC or HRPPS

HA Notify Pkts per Sec attribute

Description

The number of high availability notify packets received on the control channel per second. Notify packets are sent by the backup shared ethernet adapter when it detects that the primary SEA has recovered.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

HA_NOTIFY_PKTS_PER_SEC or HNPPS

HA Limbo Pkts per Sec attribute

Description

The number of high availability limbo packets received on the control channel per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

HA_LIMBO_PKTS_PER_SEC or HLPPS

HA State attribute

Description

The current high availability state of the shared ethernet adapter.

Type

String

Warehouse name

HA_STATE

HA Bridge Mode attribute

Description

Describes to what level, if any, the shared ethernet adapter is currently bridging traffic.

Type

String

Warehouse name

HA_BRIDGE_MODE or HBM

Times Primary per Sec attribute

Description

The number of times the shared ethernet adapter was idle and became active because the primary SEA had a failure.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

TIMES_PRIMARY_PER_SEC or TPPS

Time Backup per Sec attribute

Description

The number of times the shared ethernet adapter was active and became idle because of a failure.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

TIME_BACKUP_PER_SEC or TBPS

HA Mode attribute

Description

The high availability mode of the shared ethernet adapter (Auto, Backup, or Disabled).

Type

String

Warehouse name

HA_MODE

Priority attribute

Description

The trunk priority of the virtual ethernet for the shared ethernet adapter. Used by the SEA protocol to determine which SEA acts as primary and which one acts as backup. Values range from 1 - 12, where a lower number is favored to act as a primary.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

PRIORITY

Adapter Protocol attribute

Description

Indicates the selected network adapter transmission protocol: Auto Negotiation, Full, or Half Duplex.

Type

String

Warehouse name

ADAPTER_PROTOCOL or AP

Media Speed Running attribute

Description

Indicates the maximum media speed setting (adapter bandwidth in Mbps).

Type

String

Warehouse name

MEDIA_SPEED_RUNNING or MSR

Bandwidth Util Pct attribute

Description

Percentage of physical network adapter bandwidth utilized.

Type

Real number (32-bit gauge) with three decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1000)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

BANDWIDTH_UTIL_PCT or BUP

Network Adapters Totals attribute group

This attribute group contains network adapter totals.

Historical group

This attribute group is eligible for use with Tivoli Data Warehouse.

Attribute descriptions

The following list contains information about each attribute in the Network Adapters Totals attribute group:

Node attribute: This attribute is a key attribute.

Description

The managed system name of the agent.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

NODE

Timestamp attribute

Description

The local time at the agent when the data was collected.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

TIMESTAMP

Name attribute: This attribute is a key attribute.

Description

The name of the adapter.

Type

String

Warehouse name

NAME

Parent attribute: This attribute is a key attribute.

Description

The parent adapter name.

Type

String

Warehouse name

PARENT

Type attribute

Description

The type of adapter.

Type

String

Warehouse name

TYPE

Bytes Sent attribute

Description

The number of bytes transmitted successfully by the device.

Type
String

Warehouse name
BYTES_SENT

Pkts Sent attribute

Description
The number of packets transmitted successfully by the device.

Type
String

Warehouse name
PKTS_SENT

Pkts Sent Error attribute

Description
The number of output errors encountered on this device.

Type
String

Warehouse name
PKTS_SENT_ERROR or PSE

Sent Pkts Dropped attribute

Description
The number of packets accepted by the device driver for transmission that were not given to the device for any reason.

Type
String

Warehouse name
SENT_PKTS_DROPPED or SPD

Broadcast Pkts Sent attribute

Description
The number of broadcast packets transmitted without any error.

Type
String

Warehouse name
BROADCAST_PKTS_SENT or BPS

Multicast Pkts Sent attribute

Description
The number of multicast packets transmitted without any error.

Type
String

Warehouse name
MULTICAST_PKTS_SENT or MPS

Sent Interrupts attribute

Description
The number of transmit interrupts received by the driver from the adapter.

Type
String

Warehouse name
SENT_INTERRUPTS or SI

Bytes Recvd attribute

Description
The number of bytes received successfully by the device.

Type
String

Warehouse name
BYTES_RECVD or BR

Pkts Recvd attribute

Description

The number of packets received successfully by the device.

Type

String

Warehouse name

PKTS_RECVD

Pkts Recv Error attribute**Description**

The number of input errors encountered on this device.

Type

String

Warehouse name

PKTS_RECV_ERROR or PRE

Bad Pkts Recvd attribute**Description**

The number of bad packets received by the device driver.

Type

String

Warehouse name

BAD_PKTS_RECVD or BPR

Recv Pkts Dropped attribute**Description**

The number of packets received by the device driver from this device that were not given to a network driver for any reason.

Type

String

Warehouse name

RECV_PKTS_DROPPED or RPD

Broadcast Pkts Recvd attribute**Description**

The number of broadcast packets received without any error.

Type

String

Warehouse name

BROADCAST_PKTS_RECVD or BPR0

Multicast Pkts Recvd attribute**Description**

The number of multicast packets received without any error.

Type

String

Warehouse name

MULTICAST_PKTS_RECVD or MPR

Recv Interrupts attribute**Description**

The number of interrupts received by the driver from the adapter.

Type

String

Warehouse name

RECV_INTERRUPTS or RI

TransmitsQ attribute**Description**

The number of pending outgoing packets on either the software transmit queue or the hardware transmit queue.

Type

String

Warehouse name
TRANSMITSQ

Max TransmitsQ attribute

Description
The maximum number of outgoing packets ever queued to the software transmit queue.

Type
String

Warehouse name
MAX_TRANSMITSQ or MT

Qoverflow attribute

Description
The number of outgoing packets that have overflowed the software transmit queue.

Type
String

Warehouse name
QOVERFLOW

Real Pkts Recvd attribute

Description
The number of packets received on the physical network.

Type
String

Warehouse name
REAL_PKTS_RECVD or RPR

Real Pkts Bridged attribute

Description
The number of packets received on the physical network that were bridged to the virtual network.

Type
String

Warehouse name
REAL_PKTS_BRIDGED or RPB

Real Pkts Consumed attribute

Description
The number of packets received on the physical network that were addressed to the interface configured over the SEA.

Type
String

Warehouse name
REAL_PKTS_CONSUMED or RPC

Real Pkts Fragmented attribute

Description
The number of packets received on the physical network that were fragmented before being bridged to the virtual network because they were bigger than the Maximum Transmission Unit (MTU) for the outgoing adapter.

Type
String

Warehouse name
REAL_PKTS_FRAGMENTED or RPF

Real Pkts Sent attribute

Description
The number of packets sent on the physical network, including packets sent from the interface configured over the SEA as well as each packet bridged from the virtual network to the physical network (including fragments).

Type
String
Warehouse name
REAL_PKTS_SENT or RPS

Real Pkts Dropped attribute

Description
The number of packets received on the physical network that were dropped.
Type
String
Warehouse name
REAL_PKTS_DROPPED or RPD0

Virtual Pkts Recvd attribute

Description
The number of packets received on the virtual network.
Type
String
Warehouse name
VIRTUAL_PKTS_RECVD or VPR

Virtual Pkts Bridged attribute

Description
The number of packets received on the virtual network that were bridged to the physical network.
Type
String
Warehouse name
VIRTUAL_PKTS_BRIDGED or VPB

Virtual Pkts Consumed attribute

Description
The number of packets received on the virtual network that were addressed to the interface configured over the SEA.
Type
String
Warehouse name
VIRTUAL_PKTS_CONSUMED or VPC

Virtual Pkts Fragmented attribute

Description
The number of packets received on the virtual network that were fragmented before being bridged to the physical network because they were bigger than the Maximum Transmission Unit (MTU) for the outgoing adapter.
Type
String
Warehouse name
VIRTUAL_PKTS_FRAGMENTED or VPF

Virtual Pkts Sent attribute

Description
The number of packets sent on the virtual network. This includes packets sent from the interface configured over the SEA as well as each packet bridged from the physical network to the virtual network (including fragments).
Type
String
Warehouse name
VIRTUAL_PKTS_SENT or VPS

Virtual Pkts Dropped attribute

Description
The number of packets received on the virtual network that were dropped.

Type
String
Warehouse name
VIRTUAL_PKTS_DROPPED or VPD

Output Pkts Generated attribute

Description
The number of packets with a valid VLAN tag or no VLAN tag sent out of the interface configured over the SEA.

Type
String
Warehouse name
OUTPUT_PKTS_GENERATED or OPG

Output Pkts Dropped attribute

Description
The number of packets sent out of the interface configured over the SEA that are dropped because of an incorrect VLAN tag.

Type
String
Warehouse name
OUTPUT_PKTS_DROPPED or OPD

Output Pkts Failures attribute

Description
The number of packets that cannot be sent because of underlying device errors, including errors sending on the physical network and virtual network. This also includes fragments and ICMP error packets generated by the SEA.

Type
String
Warehouse name
OUTPUT_PKTS_FAILURES or OPF

Mem Alloc Failures attribute

Description
The number of packets that cannot be sent because there was insufficient network memory to complete an operation.

Type
String
Warehouse name
MEM_ALLOC_FAILURES or MAF

ICMP Error Pkts Sent attribute

Description
The ICMP error packets sent. The number of ICMP error packets sent successfully when a big packet cannot be fragmented because the Don't Fragment bit was set.

Type
String
Warehouse name
ICMP_ERROR_PKTS_SENT or IEPS

Non IP Pkts Larger Than MTU attribute

Description
The number of packets that cannot be sent because they were bigger than the Maximum Transmission Unit (MTU) for the outgoing adapter and could not be fragmented because they were not IP packets.

Type
String
Warehouse name
NON_IP_PKTS_LARGER_THAN_MTU or NIPLTM

ThreadQ Overflow Pkts attribute

Description

The number of packets that were dropped from the thread queues because there was no space to accommodate a newly-received packet.

Type

String

Warehouse name

THREADQ_OVERFLOW_PKTS or TOP

HA Keep Alive Pkts attribute**Description**

The number of high availability keepalive packets received on the control channel. Keepalive packets are received on the backup shared ethernet adapter while the primary SEA is active.

Type

String

Warehouse name

HA_KEEP_ALIVE_PKTS or HKAP

HA Recovery Pkts attribute**Description**

The number of recovery packets received on the control channel. Recovery packets are sent by the primary SEA when it recovers from a failure and is ready to be active again.

Type

String

Warehouse name

HA_RECOVERY_PKTS or HRP

HA Notify Pkts attribute**Description**

The number of high availability notify packets received on the control channel. Notify packets are sent by the backup shared ethernet adapter when it detects that the primary SEA has recovered.

Type

String

Warehouse name

HA_NOTIFY_PKTS or HNP

HA Limbo Pkts attribute**Description**

The number of high availability limbo packets received on the control channel.

Type

String

Warehouse name

HA_LIMBO_PKTS or HLP

HA State attribute**Description**

The current high availability state of the shared ethernet adapter.

Type

String

Warehouse name

HA_STATE

HA Bridge Mode attribute**Description**

The level at which the shared ethernet adapter is currently bridging traffic.

Type

String

Warehouse name

HA_BRIDGE_MODE or HBM

Times Primary attribute

Description

The number of times the shared ethernet adapter was idle and became active because the primary SEA had a failure.

Type

String

Warehouse name

TIMES_PRIMARY or TP

Times Backup attribute**Description**

The number of times the shared ethernet adapter was active and became idle because of a failure.

Type

String

Warehouse name

TIMES_BACKUP or TB

HA Mode attribute**Description**

The high availability mode of the shared ethernet adapter (Auto, Backup, or Disabled).

Type

String

Warehouse name

HA_MODE

Priority attribute**Description**

The trunk priority of the virtual ethernetets on the shared ethernet adapter. Used by the SEA protocol to determine which SEA acts as primary and which one acts as backup. Values are from 1 - 12, where a lower number is favored to act as a primary.

Type

String

Warehouse name

PRIORITY

Network Interfaces attribute group

This attribute group contains network interface information.

Historical group

This attribute group is eligible for use with Tivoli Data Warehouse.

Attribute descriptions

The following list contains information about each attribute in the Network Interfaces attribute group:

Node attribute: This attribute is a key attribute.

Description

The managed system name of the agent.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

NODE

Timestamp attribute**Description**

The local time at the agent when the data was collected.

Type

String

Source
The source for this attribute is the agent.

Warehouse name
TIMESTAMP

Name attribute: This attribute is a key attribute.

Description
The name of the network interface.

Type
String

Source
The source for this attribute is Script data.

Warehouse name
NAME

State attribute

Description
The status of the network interface adapter.

Type
String

Source
The source for this attribute is Script data.

Warehouse name
STATE

IP Address attribute

Description
The IP or network address of the network interface.

Type
String

Source
The source for this attribute is Script data.

Warehouse name
IP_ADDRESS

MTU attribute

Description
The maximum transmission unit size (bytes).

Type
String

Source
The source for this attribute is Script data.

Warehouse name
MTU

Mask attribute

Description
The internet network mask.

Type
String

Source
The source for this attribute is Script data.

Warehouse name
MASK

Domain attribute

Description
The internet domain name.

Type
String

Source
The source for this attribute is Script data.

Warehouse name
DOMAIN

Gateway attribute

Description
The IP address of the gateway server.

Type
String

Source
The source for this attribute is Script data.

Warehouse name
GATEWAY

Nameserver attribute

Description
The IP address of the domain name server.

Type
String

Source
The source for this attribute is Script data.

Warehouse name
NAMESERVER

NIM Resources attribute group

This attribute group contains information on the NIM resources available.

Historical group

This attribute group is eligible for use with Tivoli Data Warehouse.

Attribute descriptions

The following list contains information about each attribute in the NIM Resources attribute group:

Node attribute: This attribute is a key attribute.

Description
The managed system name of the agent.

Type
String

Source
The source for this attribute is the agent.

Warehouse name
NODE

Timestamp attribute

Description
The local time at the agent when the data was collected.

Type
String

Source
The source for this attribute is the agent.

Warehouse name
TIMESTAMP

Name attribute: This attribute is a key attribute.

Description
The name of the NIM objects as defined in the NIM Environment.

Type
String

Source
The source for this attribute is Script data.

Warehouse name
NAME

Type attribute

Description

The type of object for the specific NIM object.

Type

String

Source

The source for this attribute is Script data.

Warehouse name

TYPE

Class attribute

Description

The class type of the NIM object.

Type

String

Source

The source for this attribute is Script data.

Warehouse name

CLASS

State attribute

Description

The state of the NIM object.

Type

String

Source

The source for this attribute is Script data.

Warehouse name

STATE

Server attribute

Description

The NIM object name of the server for the NIM resource.

Type

String

Source

The source for this attribute is Script data.

Warehouse name

SERVER

Location attribute

Description

The path name of the NIM resource.

Type

String

Source

The source for this attribute is Script data.

Warehouse name

LOCATION

Information attribute

Description

The additional miscellaneous information about a NIM object.

Type

String

Source

The source for this attribute is Script data.

Warehouse name

INFORMATION or I

Paging Space attribute group

This attribute group contains paging space information.

Historical group

This attribute group is eligible for use with Tivoli Data Warehouse.

Attribute descriptions

The following list contains information about each attribute in the Paging Space attribute group:

Node attribute: This attribute is a key attribute.

Description

The managed system name of the agent.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

NODE

Timestamp attribute

Description

The local time at the agent when the data was collected.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

TIMESTAMP

Total Size MB attribute

Description

The total size of the active paging space (MB).

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

TOTAL_SIZE_MB or TSM

Free MB attribute

Description

The system paging space that is free (MB).

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

FREE_MB

Used MB attribute

Description

The system paging space that is used (MB).

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

USED_MB

Free Pct attribute**Description**

The percentage of system paging space that is free.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

FREE_PCT

Used Pct attribute**Description**

The percentage of system paging space that is used.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

USED_PCT

Pages Read per Sec attribute**Description**

The number of 4K pages per second read from paging space by the VMM.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

PAGES_READ_PER_SEC or PRPS

Pages Written per Sec attribute**Description**

The number of 4K pages per second written to paging space by the VMM.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

PAGES_WRITTEN_PER_SEC or PWPS

Performance Object Status attribute group

The Performance Object Status attribute group contains information that reflects the status of other attribute groups so you can see the status of all of the performance objects that make up this application all at once. Each of these other performance attribute groups is represented by a row in this table (or other type of view). The status for an attribute group reflects the result of the last attempt to collect data for that attribute group, which allows you to see whether the agent is performing correctly. Unlike other attribute groups, the Performance Object Status attribute group does not reflect the state of the monitored application. This attribute group is most often used to determine why data is not available for one of the performance attribute groups.

Historical group

This attribute group is eligible for use with Tivoli Data Warehouse.

Attribute descriptions

The following list contains information about each attribute in the Performance Object Status attribute group:

Node attribute: This attribute is a key attribute.**Description**

The managed system name of the agent.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

NODE

Timestamp attribute**Description**

The local time at the agent when the data was collected.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

TIMESTAMP

Query Name attribute: This attribute is a key attribute.**Description**

The name of the attribute group.

Type

String

Warehouse name
QUERY_NAME or ATTRGRP

Object Name attribute

Description
The name of the performance object.

Type
String

Warehouse name
OBJECT_NAME or OBJNAME

Object Type attribute

Description
The type of the performance object.

Type
Integer with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- WMI (0)
- PERFMON (1)
- WMI ASSOCIATION GROUP (2)
- JMX (3)
- SNMP (4)
- SHELL COMMAND (5)
- JOINED GROUPS (6)
- CIMOM (7)
- CUSTOM (8)
- ROLLUP DATA (9)
- WMI REMOTE DATA (10)
- LOG FILE (11)
- JDBC (12)
- CONFIG DISCOVERY (13)
- NT EVENT LOG (14)
- FILTER (15)
- SNMP EVENT (16)
- PING (17)
- DIRECTOR DATA (18)
- DIRECTOR EVENT (19)
- SSH REMOTE SHELL COMMAND (20)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name
OBJECT_TYPE or OBJTYPE

Object Status attribute

Description
The status of the performance object.

Type
Integer with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- ACTIVE (0)
- INACTIVE (1)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name
OBJECT_STATUS or OBJSTTS

Error Code attribute

Description

The error code that is associated with the query.

Type

Integer with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- NO ERROR (0)
- GENERAL ERROR (1)
- OBJECT NOT FOUND (2)
- COUNTER NOT FOUND (3)
- NAMESPACE ERROR (4)
- OBJECT CURRENTLY UNAVAILABLE (5)
- COM LIBRARY INIT FAILURE (6)
- SECURITY INIT FAILURE (7)
- PROXY SECURITY FAILURE (9)
- NO INSTANCES RETURNED (10)
- ASSOCIATOR QUERY FAILED (11)
- REFERENCE QUERY FAILED (12)
- NO RESPONSE RECEIVED (13)
- CANNOT FIND JOINED QUERY (14)
- CANNOT FIND JOIN ATTRIBUTE IN QUERY 1 RESULTS (15)
- CANNOT FIND JOIN ATTRIBUTE IN QUERY 2 RESULTS (16)
- QUERY 1 NOT A SINGLETON (17)
- QUERY 2 NOT A SINGLETON (18)
- NO INSTANCES RETURNED IN QUERY 1 (19)
- NO INSTANCES RETURNED IN QUERY 2 (20)
- CANNOT FIND ROLLUP QUERY (21)
- CANNOT FIND ROLLUP ATTRIBUTE (22)
- FILE OFFLINE (23)
- NO HOSTNAME (24)
- MISSING LIBRARY (25)
- ATTRIBUTE COUNT MISMATCH (26)
- ATTRIBUTE NAME MISMATCH (27)
- COMMON DATA PROVIDER NOT STARTED (28)
- CALLBACK REGISTRATION ERROR (29)
- MDL LOAD ERROR (30)
- AUTHENTICATION FAILED (31)
- CANNOT RESOLVE HOST NAME (32)
- SUBNODE UNAVAILABLE (33)
- SUBNODE NOT FOUND IN CONFIG (34)
- ATTRIBUTE ERROR (35)
- CLASSPATH ERROR (36)
- CONNECTION FAILURE (37)
- FILTER SYNTAX ERROR (38)
- FILE NAME MISSING (39)
- SQL QUERY ERROR (40)
- SQL FILTER QUERY ERROR (41)
- SQL DB QUERY ERROR (42)
- SQL DB FILTER QUERY ERROR (43)
- PORT OPEN FAILED (44)
- ACCESS DENIED (45)
- TIMEOUT (46)
- NOT IMPLEMENTED (47)
- REQUESTED A BAD VALUE (48)
- RESPONSE TOO BIG (49)
- GENERAL RESPONSE ERROR (50)

- SCRIPT NONZERO RETURN (51)
- SCRIPT NOT FOUND (52)
- SCRIPT LAUNCH ERROR (53)
- CONF FILE DOES NOT EXIST (54)
- CONF FILE ACCESS DENIED (55)
- INVALID CONF FILE (56)
- EIF INITIALIZATION FAILED (57)
- CANNOT OPEN FORMAT FILE (58)
- FORMAT FILE SYNTAX ERROR (59)
- REMOTE HOST UNAVAILABLE (60)
- EVENT LOG DOES NOT EXIST (61)
- PING FILE DOES NOT EXIST (62)
- NO PING DEVICE FILES (63)
- PING DEVICE LIST FILE MISSING (64)
- SNMP MISSING PASSWORD (65)
- DISABLED (66)
- URLS FILE NOT FOUND (67)
- XML PARSE ERROR (68)
- NOT INITIALIZED (69)
- ICMP SOCKETS FAILED (70)
- DUPLICATE CONF FILE (71)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name
ERROR_CODE or ERRCODE

Physical Memory attribute group

This attribute group contains information about the physical memory for the system.

Historical group

This attribute group is eligible for use with Tivoli Data Warehouse.

Attribute descriptions

The following list contains information about each attribute in the Physical Memory attribute group:

Node attribute: This attribute is a key attribute.

Description

The managed system name of the agent.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

NODE

Timestamp attribute

Description

The local time at the agent when the data was collected.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

TIMESTAMP

Memory Size MB attribute

Description

The total amount of physical memory available to this system (MB).

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

MEMORY_SIZE_MB or MSM

Free Memory MB attribute**Description**

The amount of free (unallocated) system memory in MB.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

FREE_MEMORY_MB or FMM

Used Memory MB attribute**Description**

The amount of used (allocated) system memory in MB.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

USED_MEMORY_MB or UMM

Free Memory Pct attribute**Description**

The percentage of system memory that is free (unallocated).

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

FREE_MEMORY_PCT or FMP

Used Memory Pct attribute

Description

The percentage of system memory that is used (allocated).

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

USED_MEMORY_PCT or UMP

Non Comp Memory attribute**Description**

The number of non-computational 4K pages resident in memory.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

NON_COMP_MEMORY or NCM

Comp Memory attribute**Description**

The number of computational 4K pages resident in memory.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

COMP_MEMORY or CM

Decay Rate attribute**Description**

The decay rate for repaging values per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name
DECAY_RATE

Repaging Rate attribute

Description
The global repaging rate per second.

Type
Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name
REPAGING_RATE or RR

Physical Volumes attribute group

This attribute group contains physical volume information.

Historical group

This attribute group is eligible for use with Tivoli Data Warehouse.

Attribute descriptions

The following list contains information about each attribute in the Physical Volumes attribute group:

Node attribute: This attribute is a key attribute.

Description
The managed system name of the agent.

Type
String

Source
The source for this attribute is the agent.

Warehouse name
NODE

Timestamp attribute

Description
The local time at the agent when the data was collected.

Type
String

Source
The source for this attribute is the agent.

Warehouse name
TIMESTAMP

Name attribute: This attribute is a key attribute.

Description
The name of the physical volume.

Type
String

Warehouse name
NAME

State attribute

Description
The state of the physical volume.

Type
String

Warehouse name	STATE
<u>Volume Group Name attribute</u>	
Description	The name of the volume group.
Type	String
Warehouse name	VOLUME_GROUP_NAME or VGN
<u>Number of Logical Volumes attribute</u>	
Description	The number of logical volumes using the physical volume.
Type	Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined: <ul style="list-style-type: none"> • Not Collected (-1) • Value Exceeds Minimum (-2147483648) • Value Exceeds Maximum (2147483647) <p>Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.</p>
Warehouse name	NUMBER_OF_LOGICAL_VOLUMES or NOLV
<u>Number of Stale Partitions attribute</u>	
Description	The number of partitions not updated in a mirrored LVM environment.
Type	Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined: <ul style="list-style-type: none"> • Not Collected (-1) • Value Exceeds Minimum (-2147483648) • Value Exceeds Maximum (2147483647) <p>Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.</p>
Warehouse name	NUMBER_OF_STALE_PARTITIONS or NOSP
<u>Size MB attribute</u>	
Description	The size of the physical volume in MB.
Type	Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined: <ul style="list-style-type: none"> • Not Collected (-1) • Value Exceeds Minimum (-2147483648) • Value Exceeds Maximum (2147483647) <p>Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.</p>
Warehouse name	SIZE_MB
<u>Free MB attribute</u>	
Description	The amount of available space in the physical volume in MB.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

FREE_MB

Used MB attribute**Description**

The amount of used space in the physical volume in MB.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

USED_MB

Free Pct attribute**Description**

The percentage of free space in the physical volume.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

FREE_PCT

Used Pct attribute**Description**

The percentage of space used in the physical volume.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

USED_PCT

Unique ID attribute: This attribute is a key attribute.

Description
The unique identifier for the disk (UDID).

Type
String

Warehouse name
UNIQUE_ID

Print Queues attribute group

This attribute group contains print queue information.

Historical group

This attribute group is eligible for use with Tivoli Data Warehouse.

Attribute descriptions

The following list contains information about each attribute in the Print Queues attribute group:

Node attribute: This attribute is a key attribute.

Description
The managed system name of the agent.

Type
String

Source
The source for this attribute is the agent.

Warehouse name
NODE

Timestamp attribute

Description
The local time at the agent when the data was collected.

Type
String

Source
The source for this attribute is the agent.

Warehouse name
TIMESTAMP

Name attribute: This attribute is a key attribute.

Description
The print queue name.

Type
String

Source
The source for this attribute is Script data.

Warehouse name
NAME

Device attribute

Description
The print device name.

Type
String

Source
The source for this attribute is Script data.

Warehouse name
DEVICE

State attribute

Description
The print queue status.

Type
String

Source
The source for this attribute is Script data.

Warehouse name
STATE

Description attribute

Description
The printer description.

Type
String

Source
The source for this attribute is Script data.

Warehouse name
DESCRIPTION or D

Processes Detail attribute group

This attribute group contains detailed process information.

Historical group

This attribute group is eligible for use with Tivoli Data Warehouse.

Attribute descriptions

The following list contains information about each attribute in the Processes Detail attribute group:

Node attribute: This attribute is a key attribute.

Description
The managed system name of the agent.

Type
String

Source
The source for this attribute is the agent.

Warehouse name
NODE

Timestamp attribute

Description
The local time at the agent when the data was collected.

Type
String

Source
The source for this attribute is the agent.

Warehouse name
TIMESTAMP

Process Name attribute

Description
The process name.

Type
String

Warehouse name
PROCESS_NAME or PN

Process ID attribute: This attribute is a key attribute.

Description
The process ID.

Type
Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)

- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

PROCESS_ID

Parent Process ID attribute

Description

The parent process ID.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

PARENT_PROCESS_ID or PPI

Nice attribute

Description

The process nice value.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

NICE

User Name attribute

Description

The user name.

Type

String

Warehouse name

USER_NAME

Repage Count per Sec attribute

Description

The process repage count per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

REPAGE_COUNT_PER_SEC or RCPS

IO Page Fault per Sec attribute

Description

The process page faults involving IO per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

IO_PAGE_FAULT_PER_SEC or IPFPS

Non IO Page Fault per Sec attribute

Description

The process page faults not involving IO per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

NON_IO_PAGE_FAULT_PER_SEC or NIPFPS

Text Size attribute

Description

The code size (bytes).

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

TEXT_SIZE

Resident Text Size attribute

Description

The amount of resident physical memory used by the process code (4K pages).

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

RESIDENT_TEXT_SIZE or RTS

Resident Data Size attribute**Description**

The amount of resident physical memory used by the process private data (4K pages).

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

RESIDENT_DATA_SIZE or RDS

Page Space Used attribute**Description**

The amount of page space used by the process private data (4K pages).

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

PAGE_SPACE_USED or PSU

Signals In per Sec attribute**Description**

The number of signals received by the process per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

SIGNALS_IN_PER_SEC or SIPS

Voluntary Context Switches per Sec attribute**Description**

The number of voluntary context switches performed by the process per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)

- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

VOLUNTARY_CONTEXT_SWITCHES_PER_SEC or VCSPS

Process Group ID attribute

Description

The process group ID.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

PROCESS_GROUP_ID or PGI

Priority attribute

Description

The process priority.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

PRIORITY

State attribute

Description

The process state: None, Created, Dying, Stopped, Active, Swapped.

Type

Integer with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- None (0)
- Created (4)
- Dying (5)
- Stopped (6)
- Active (7)
- Swapped (8)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

STATE

Process UID attribute

Description

The real user ID for the process.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

PROCESS_UID or PU

Thread Count attribute**Description**

The number of threads associated with this process.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

THREAD_COUNT or TC

Process Core Size attribute**Description**

The process core image size.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

PROCESS_CORE_SIZE or PCS

Involuntary Context Switches Per Sec attribute**Description**

The involuntary context switches by process per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

INVOLUNTARY_CONTEXT_SWITCHES_PER_SEC or ICSPS

Total CPU Time attribute

Description

The total CPU used by this process.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

TOTAL_CPU_TIME or TCT

CPU Pct attribute**Description**

The percentage of CPU used by this process.

Type

Real number (32-bit gauge) with one decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-10)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

CPU_PCT

WPAR Name attribute**Description**

The name of the WPAR.

Type

String

Warehouse name

WPAR_NAME

WLM Name attribute**Description**

The WLM class name to which the process belongs.

Type

String

Warehouse name

WLM_NAME

Full Path attribute**Description**

The full path of the command (with options).

Type

String

Warehouse name

FULL_PATH

Processes Summary attribute group

This attribute group contains system-wide process information.

Historical group

This attribute group is eligible for use with Tivoli Data Warehouse.

Attribute descriptions

The following list contains information about each attribute in the Processes Summary attribute group:

Node attribute: This attribute is a key attribute.

Description

The managed system name of the agent.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

NODE

Timestamp attribute

Description

The local time at the agent when the data was collected.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

TIMESTAMP

Process Context Switches per Sec attribute

Description

The process context switches per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

PROCESS_CONTEXT_SWITCHES_PER_SEC or PCSPS

Run Queue Avg attribute

Description

The average count of processes that are waiting for the CPU.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

RUN_QUEUE_AVG or RQA

Swap Queue Avg attribute

Description

The average count of processes waiting to be paged in.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the

Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

SWAP_QUEUE_AVG or SQA

Kern Procs Created per Sec attribute

Description

The number of kernel process creations per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

KERN_PROCS_CREATED_PER_SEC or KPCPS

Kern Procs Exit per Sec attribute

Description

The number of kernel process exits per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

KERN_PROCS_EXIT_PER_SEC or KPEPS

Load Avg attribute

Description

The partition load average.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

LOAD_AVG

Utilization Avg attribute

Description

The partition utilization average.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

UTILIZATION_AVG or UA

Total Num Processes attribute**Description**

The number of processes.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

TOTAL_NUM_PROCESSES or TNP

Quality Of Service attribute group

This attribute group contains networking quality of service information.

Historical group

This attribute group is eligible for use with Tivoli Data Warehouse.

Attribute descriptions

The following list contains information about each attribute in the Quality Of Service attribute group:

Node attribute: This attribute is a key attribute.

Description

The managed system name of the agent.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

NODE

Timestamp attribute**Description**

The local time at the agent when the data was collected.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

TIMESTAMP

Policy Rule Priority attribute**Description**

The Policy Rule Priority number.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

POLICY_RULE_PRIORITY or PRP

Protocol attribute: This attribute is a key attribute.

Description

The protocol to which this rule applies (TCP or UDP).

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)
- ICMP (1)
- IGMP (2)
- TCP (6)
- UDP (17)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

PROTOCOL

Source IP Addr start attribute: This attribute is a key attribute.

Description

The start of the Source IP Address range for this rule.

Type

String

Warehouse name

SOURCE_IP_ADDR_START or SIAS

Source IP Addr end attribute: This attribute is a key attribute.

Description

The end of the Source IP Address range for this rule.

Type

String

Warehouse name

SOURCE_IP_ADDR_END or SIAE

Dest IP Addr start attribute: This attribute is a key attribute.

Description

The start of the Destination IP Address range for this rule.

Type

String

Warehouse name

DEST_IP_ADDR_START or DIAS

Dest IP Addr end attribute: This attribute is a key attribute.

Description

The end of the Destination IP Address range for this rule.

Type

String

Warehouse name

DEST_IP_ADDR_END or DIAE

Source Port start attribute**Description**

The start of the source port range for this rule.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- ANY PORT (-2)
- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

SOURCE_PORT_START or SPS

Source Port end attribute**Description**

The end of the source port range for this rule.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- ANY PORT (-2)
- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

SOURCE_PORT_END or SPE

Dest Port start attribute**Description**

The start of the destination port range for this rule.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- ANY PORT (-2)
- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

DEST_PORT_START or DPS

Dest Port end attribute**Description**

The end of the destination port range for this rule.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- ANY PORT (-2)
- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

DEST_PORT_END or DPE

Service Class attribute

Description

The Service Class (Integrated Services Controlled Load, Integrated Services Guaranteed Rate, or Differentiated Services).

Type

Integer with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Integrated Services Controlled Load (5)
- Integrated Services Guaranteed Rate (2)
- Differentiated Services (1)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

SERVICE_CLASS or SC

Peak Rate attribute

Description

The highest allowed rate (bytes/second).

Type

String

Warehouse name

PEAK_RATE

Average Rate attribute

Description

The average allowed rate (bytes/second).

Type

String

Warehouse name

AVERAGE_RATE or AR

Bucket Depth attribute

Description

The bucket depth for the profile.

Type

String

Warehouse name

BUCKET_DEPTH or BD

Guaranteed Rate attribute

Description

The guaranteed rate for the policy (only applicable if Service_Class is 'Integrated Services Guaranteed Rate').

Type

String

Warehouse name

GUARANTEED_RATE or GR

Slack Term attribute

Description

The slack_Term for the policy (only applicable if Service_Class is 'Integrated Services Guaranteed Rate').

Type

String

Warehouse name

SLACK_TERM

TOS In attribute**Description**

The outgoing TOS (compliant) (Differentiated Services Only).

Type

String

Warehouse name

TOS_IN

TOS Out attribute**Description**

The outgoing TOS (non-compliant) (Differentiated Services Only).

Type

String

Warehouse name

TOS_OUT

Max Packet Size attribute**Description**

Do not apply this rule to packets larger than this size.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

MAX_PACKET_SIZE or MPS

Min Packet Size attribute**Description**

Do not apply this rule to packets smaller than this size.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

MIN_PACKET_SIZE or MPS0

Num Connections attribute**Description**

The total number of connections for this profile.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the

Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

NUM_CONNECTIONS or NC

Bytes Xmitted attribute

Description

The total number of bytes transmitted.

Type

String

Warehouse name

BYTES_XMITTED or BX

Packets Xmitted attribute

Description

The total number of packets transmitted.

Type

String

Warehouse name

PACKETS_XMITTED or PX

In Profile Bytes Xmitted attribute

Description

The total number of in-profile bytes transmitted.

Type

String

Warehouse name

IN_PROFILE_BYTES_XMITTED or IPBX

In Profile Packets Xmitted attribute

Description

The total number of in-profile packets transmitted.

Type

String

Warehouse name

IN_PROFILE_PACKETS_XMITTED or IPPX

System Call attribute group

This attribute group contains system call rate information.

Historical group

This attribute group is eligible for use with Tivoli Data Warehouse.

Attribute descriptions

The following list contains information about each attribute in the System Call attribute group:

Node attribute: This attribute is a key attribute.

Description

The managed system name of the agent.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

NODE

Timestamp attribute

Description

The local time at the agent when the data was collected.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

TIMESTAMP

Num Syscalls per Sec attribute**Description**

The total system calls per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

NUM_SYSCALLS_PER_SEC or NSPS

Reads per Sec attribute**Description**

The read system calls per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

READS_PER_SEC or RPS

Writes per Sec attribute**Description**

The write system calls per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

WRITES_PER_SEC or WPS

Forks per Sec attribute**Description**

The fork system calls per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

FORKS_PER_SEC or FPS

Execs per Sec attribute**Description**

The exec system calls per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

EXECS_PER_SEC or EPS

System IO attribute group

This attribute group contains information related to System IO.

Historical group

This attribute group is eligible for use with Tivoli Data Warehouse.

Attribute descriptions

The following list contains information about each attribute in the System IO attribute group:

Node attribute: This attribute is a key attribute.

Description

The managed system name of the agent.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

NODE

Timestamp attribute**Description**

The local time at the agent when the data was collected.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

TIMESTAMP

Syscall Read Chars per Sec attribute**Description**

The KBs read through the read sys call per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

SYSCALL_READ_CHARS_PER_SEC or SRCPS

Syscall Write Chars per Sec attribute**Description**

The KBs written through the write sys call per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

SYSCALL_WRITE_CHARS_PER_SEC or SWCPS

Logical Blk Buffer Cache Reads per Sec attribute**Description**

The logical reads from a block device through the buffer cache per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

LOGICAL_BLK_BUFFER_CACHE_READS_PER_SEC or LBBCRPS

Logical Blk Buffer Cache Writes per Sec attribute**Description**

The logical writes to a block device through the buffer cache per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

LOGICAL_BLK_BUFFER_CACHE_WRITES_PER_SEC or LBBCWPS

Phys Blk Buffer Cache Reads per Sec attribute

Description

The physical 4K reads from a block device to buffer cache per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

PHYS_BLK_BUFFER_CACHE_READS_PER_SEC or PBBCRPS

Phys Blk Buffer Cache Writes per Sec attribute**Description**

The physical 4K writes to a block device from buffer cache per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

PHYS_BLK_BUFFER_CACHE_WRITES_PER_SEC or PBBCWPS

Phys Raw Reads per Sec attribute**Description**

The physical reads directly from a raw device per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

PHYS_RAW_READS_PER_SEC or PRRPS

Phys Raw Writes per Sec attribute**Description**

The physical writes directly to a raw device per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name
PHYS_RAW_WRITES_PER_SEC or PRWPS

TADDM attribute group

This attribute group contains the CEC identification information required by the Tivoli Application Dependency Discovery Manager (TADDM) application.

Historical group

This attribute group is eligible for use with Tivoli Data Warehouse.

Attribute descriptions

The following list contains information about each attribute in the TADDM attribute group:

Node attribute: This attribute is a key attribute.

Description

The managed system name of the agent.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

NODE

Timestamp attribute

Description

The local time at the agent when the data was collected.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

TIMESTAMP

CEC Mfg attribute

Description

The name of the CEC manufacturer (IBM).

Type

String

Source

The source for this attribute is Script data.

Warehouse name

CEC_MFG

CEC Model attribute

Description

The CEC system model number.

Type

String

Source

The source for this attribute is Script data.

Warehouse name

CEC_MODEL

CEC SN attribute

Description

The CEC system serial number.

Type

String

Source

The source for this attribute is Script data.

Warehouse name

CEC_SN

LPAR Num attribute

Description

The LPAR identification number.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Value Exceeds Maximum (2147483647)
- Value Exceeds Minimum (-2147483648)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Source

The source for this attribute is Script data.

Warehouse name

LPAR_NUM

TCP attribute group

This attribute group contains system-wide TCP networking information.

Historical group

This attribute group is eligible for use with Tivoli Data Warehouse.

Attribute descriptions

The following list contains information about each attribute in the TCP attribute group:

Node attribute: This attribute is a key attribute.

Description

The managed system name of the agent.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

NODE

Timestamp attribute

Description

The local time at the agent when the data was collected.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

TIMESTAMP

Connections Initiated per Sec attribute

Description

The TCP connections initiated per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

CONNECTIONS_INITIATED_PER_SEC or CIPS

Connections Established per Sec attribute

Description

The TCP connections established per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

CONNECTIONS_ESTABLISHED_PER_SEC or CEPS

Connections Closed per Sec attribute

Description

The TCP connections closed per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

CONNECTIONS_CLOSED_PER_SEC or CCPS

Total Packets Sent per Sec attribute

Description

The TCP packets sent per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

TOTAL_PACKETS_SENT_PER_SEC or TPSPS

Data Packets Sent per Sec attribute

Description

The TCP data packets sent per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

DATA_PACKETS_SENT_PER_SEC or DPSPS

Data Sent KB per Sec attribute

Description

The TCP data KBs sent per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

DATA_SENT_KB_PER_SEC or DSKPS

Data Pkt Retransmitted per Sec attribute

Description

The TCP data packets retransmitted per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

DATA_PKT_RETRANSMITTED_PER_SEC or DPRPS

Ack Only Pkt Sent per Sec attribute

Description

The TCP ack-only packets sent per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

ACK_ONLY_PKT_SENT_PER_SEC or AOPSPS

Total Packets Received per Sec attribute

Description

The TCP total packets received per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

TOTAL_PACKETS_RECEIVED_PER_SEC or TPRPS

Ack Pkt Received per Sec attribute

Description

The TCP ack packets received per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

ACK_PKT_RECEIVED_PER_SEC or APRPS

Top 50 CPU Processes attribute group

This attribute group contains the processes that are the top 50 CPU users.

Historical group

This attribute group is eligible for use with Tivoli Data Warehouse.

Attribute descriptions

The following list contains information about each attribute in the Top 50 CPU Processes attribute group:

Node attribute: This attribute is a key attribute.

Description

The managed system name of the agent.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

NODE

Timestamp attribute

Description

The local time at the agent when the data was collected.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

TIMESTAMP

Name attribute

Description

The process name.

Type

String

Warehouse name

NAME

ID attribute: This attribute is a key attribute.

Description

The process identification number.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

ID

CPU Pct attribute**Description**

The percentage of CPU utilized by the process.

Type

Real number (32-bit gauge) with one decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-10)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

CPU_PCT

Memory KB attribute**Description**

The amount of memory utilized by the process (KB).

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

MEMORY_KB

Owner attribute**Description**

The system user name that owns the process.

Type

String

Warehouse name

OWNER

Full Path attribute**Description**

The full path of the command (with options).

Type

String

Warehouse name

FULL_PATH

Top 50 Memory Processes attribute group

This attribute group contains the processes that are the top 50 memory users.

Historical group

This attribute group is eligible for use with Tivoli Data Warehouse.

Attribute descriptions

The following list contains information about each attribute in the Top 50 Memory Processes attribute group:

Node attribute: This attribute is a key attribute.

Description

The managed system name of the agent.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

NODE

Timestamp attribute

Description

The local time at the agent when the data was collected.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

TIMESTAMP

Name attribute

Description

The process name.

Type

String

Warehouse name

NAME

ID attribute: This attribute is a key attribute.

Description

The process identification number.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

ID

CPU Pct attribute

Description

The percentage of CPU utilized by the process.

Type

Real number (32-bit gauge) with one decimal places of precision with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-10)

- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name
CPU_PCT

Memory KB attribute

Description

The amount of memory utilized by the process (KB).

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name
MEMORY_KB

Owner attribute

Description

The system user name that owns the process.

Type

String

Warehouse name
OWNER

Full Path attribute

Description

The full path of the command (with options).

Type

String

Warehouse name
FULL_PATH

Virtual Memory Management attribute group

This attribute group contains information about virtual memory management for the system.

Historical group

This attribute group is eligible for use with Tivoli Data Warehouse.

Attribute descriptions

The following list contains information about each attribute in the Virtual Memory Management attribute group:

Node attribute: This attribute is a key attribute.

Description

The managed system name of the agent.

Type

String

Source

The source for this attribute is the agent.

Warehouse name
NODE

Timestamp attribute

Description

The local time at the agent when the data was collected.

Type String
Source The source for this attribute is the agent.

Warehouse name
TIMESTAMP

Pages Read per Sec attribute

Description
The number of 4K pages read by VMM per second.

Type
Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name
PAGES_READ_PER_SEC or PRPS

Pages Written per Sec attribute

Description
The number of 4K pages written by VMM per second.

Type
Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name
PAGES_WRITTEN_PER_SEC or PWPS

Paging Space Read per Sec attribute

Description
The number of 4K pages read from paging space by VMM per second.

Type
Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name
PAGING_SPACE_READ_PER_SEC or PSRPS

Paging Space Written per Sec attribute

Description
The number of 4K pages written to paging space by VMM per second.

Type
Integer (32-bit gauge) with enumerated values. The strings are displayed in the

Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

PAGING_SPACE_WRITTEN_PER_SEC or PSWPS

Zero Fill per Sec attribute

Description

The page faults satisfied by zero-filling memory frames per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

ZERO_FILL_PER_SEC or ZFPS

Pagein Wait per Sec attribute

Description

The process waits because of page-ins per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

PAGEIN_WAIT_PER_SEC or PWPS0

Page Fault per Sec attribute

Description

The total page faults per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

PAGE_FAULT_PER_SEC or PFPS

Page Reclaim per Sec attribute

Description

The page faults satisfied by page reclaims per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

PAGE_RECLAIM_PER_SEC or PRPS0

Steals per Sec attribute**Description**

The physical memory 4K frames stolen by VMM per second.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

STEALS_PER_SEC or SPS

Memory Not Pinned attribute**Description**

The number of 4K memory pages that are not pinned.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

MEMORY_NOT_PINNED or MNP

Comp Repage Pct attribute**Description**

The percentage of repage requests coming from computational segments.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

COMP_REPAGE_PCT or CRP

Noncomp Repage Pct attribute

Description

The percentage of repage requests coming from non-computational segments.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

NONCOMP_REPAGE_PCT or NRP

Pending Client Pageout attribute**Description**

The total number of client (remote file) page replacement page-outs pending.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

PENDING_CLIENT_PAGEOUT or PCP

Volume Groups attribute group

This attribute group contains volume group information.

Historical group

This attribute group is eligible for use with Tivoli Data Warehouse.

Attribute descriptions

The following list contains information about each attribute in the Volume Groups attribute group:

Node attribute: This attribute is a key attribute.

Description

The managed system name of the agent.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

NODE

Timestamp attribute**Description**

The local time at the agent when the data was collected.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

TIMESTAMP

Name attribute: This attribute is a key attribute.

Description

The name of the volume group.

Type

String

Warehouse name

NAME

State attribute**Description**

The state of the volume group.

Type

String

Warehouse name

STATE

Number of Logical Volumes attribute**Description**

The number of logical volumes currently in the volume group.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

NUMBER_OF_LOGICAL_VOLUMES or NOLV

Number of Physical Volumes attribute**Description**

The total number of physical volumes within the volume group.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

NUMBER_OF_PHYSICAL_VOLUMES or NOPV

Number of Active Physical Volumes attribute**Description**

The number of physical volumes that are currently active.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

NUMBER_OF_ACTIVE_PHYSICAL_VOLUMES or NOAPV

Number of Stale Physical Volumes attribute**Description**

The number of physical volumes that are not current.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

NUMBER_OF_STALE_PHYSICAL_VOLUMES or NOSPV

Size MB attribute**Description**

The size of the volume group in MB.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

SIZE_MB

Free MB attribute**Description**

The amount of available space in the volume group in MB.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

FREE_MB

Used MB attribute**Description**

The amount of used space in the volume group in MB.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name
USED_MB

Free Pct attribute

Description

The percentage of free space in the volume group.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name
FREE_PCT

Used Pct attribute

Description

The percentage of space used in the volume group.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name
USED_PCT

Workload Manager attribute group

This attribute group contains workload manager (WLM) class information.

Historical group

This attribute group is eligible for use with Tivoli Data Warehouse.

Attribute descriptions

The following list contains information about each attribute in the Workload Manager attribute group:

Node attribute: This attribute is a key attribute.

Description

The managed system name of the agent.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

NODE

Timestamp attribute

Description

The local time at the agent when the data was collected.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

TIMESTAMP

Class Name attribute: This attribute is a key attribute.**Description**

The name of the WLM class. A class is a collection of processes (jobs) with a single set of resource limits applied to it.

Type

String

Warehouse name

CLASS_NAME

Tier Num attribute**Description**

The tier number (0 - 9) to which the WLM class belongs. This number defines the relative priority of a class (0 is high, 9 is low).

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Value Exceeds Maximum (2147483647)
- Value Exceeds Minimum (-2147483648)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

TIER_NUM

CPU Consumed Pct attribute**Description**

The percentage of the total CPU consumed within an interval by all threads in the class. (total CPU for class/total CPU available).

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

CPU_CONSUMED_PCT or CCP

CPU Desired Pct attribute**Description**

The desired percentage of CPU resource to allocate to the class.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

CPU_DESIRED_PCT or CDP

CPU total attribute**Description**

The sum of all CPU cycles consumed by all threads in the class.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

CPU_TOTAL

CPU shares attribute**Description**

The number of CPU shares to be allocated to the class (1 - 65535).

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

CPU_SHARES

CPU min attribute**Description**

The minimum percentage of CPU that must be made available when requested.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

CPU_MIN

CPU Soft Max attribute**Description**

The maximum percentage of CPU that can be made available to the class when there is CPU contention.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)

- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

CPU_SOFT_MAX or CSM

CPU Hard Max attribute

Description

The maximum percentage of CPU that can be available to the class when there is no CPU contention.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

CPU_HARD_MAX or CHM

Mem Consumed Pct attribute

Description

The percentage of total memory consumed (within an interval) by all threads in the class.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

MEM_CONSUMED_PCT or MCP

Mem Desired Pct attribute

Description

The desired percentage of memory resources to allocate to the class.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

MEM_DESIRED_PCT or MDP

Mem total attribute

Description

The sum of all memory consumed by all threads in the class.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the

Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

MEM_TOTAL

Mem shares attribute

Description

The number of memory shares to be allocated to the class (1 - 65535).

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

MEM_SHARES

Mem min attribute

Description

The minimum percentage of memory that must be made available when requested.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

MEM_MIN

Mem Soft Max attribute

Description

The maximum percentage of memory that can be made available to the class when there is memory contention.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

MEM_SOFT_MAX or MSM

Mem Hard Max attribute

Description

The maximum percentage of memory that can be available to the class when there is no memory contention.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

MEM_HARD_MAX or MHM

Disk Consumed Pct attribute**Description**

The percentage of total disk resources consumed (within an interval) by all threads in the class.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

DISK_CONSUMED_PCT or DCP

Disk Desired Pct attribute**Description**

The desired percentage of disk resources to allocate to the class.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

DISK_DESIRED_PCT or DDP

Disk total attribute**Description**

The sum of all the disk resources consumed by all threads in the class.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

DISK_TOTAL

Disk shares attribute

Description

The number of disk shares to be allocated to the class (1 - 65535).

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

DISK_SHARES or DS

Disk min attribute

Description

The minimum percentage of disk resource that must be made available when requested.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

DISK_MIN

Disk Soft Max attribute

Description

The maximum percentage of disk resource that can be made available to the class when there is disk contention.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

DISK_SOFT_MAX or DSM

Disk Hard Max attribute

Description

The maximum percentage of disk resource that can be made available to the class when there is no disk contention.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the

Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

DISK_HARD_MAX or DHM

WPAR CPU attribute group

This attribute group contains CPU usage information for WPARs.

Historical group

This attribute group is eligible for use with Tivoli Data Warehouse.

Attribute descriptions

The following list contains information about each attribute in the WPAR CPU attribute group:

Node attribute: This attribute is a key attribute.

Description

The managed system name of the agent.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

NODE

Timestamp attribute

Description

The local time at the agent when the data was collected.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

TIMESTAMP

WPAR Name attribute: This attribute is a key attribute.

Description

The name of the WPAR.

Type

String

Warehouse name

WPAR_NAME

User CPU Pct attribute

Description

The time this WPAR spent running in CPU user mode percentage.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name
USER_CPU_PCT or UCP

System CPU Pct attribute

Description

The time this WPAR spent running in CPU kernel mode percentage.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name
SYSTEM_CPU_PCT or SCP

Num CPUs Consumed attribute

Description

The number of physical processors consumed by the WPAR when the LPAR is in shared processor mode.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name
NUM_CPUS_CONSUMED or NCC

WPAR CPU Consumed Pct attribute

Description

The percentage of its CPU share consumed by the WPAR.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name
WPAR_CPU_CONSUMED_PCT or WCCP

LPAR CPU Consumed Pct attribute

Description

The percentage of CPU entitlement of the LPAR consumed by the WPAR.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)

- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

LPAR_CPU_CONSUMED_PCT or LCCP

CPU Consumption Limit attribute

Description

The maximum number of physical processors that a WPAR is allowed to consume.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

CPU_CONSUMPTION_LIMIT or CCL

RC CPU Limits Hard Max attribute

Description

The maximum percentage CPU that a WPAR can have even if there is no contention for CPU.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

RC_CPU_LIMITS_HARD_MAX or RCLHM

LPAR Entitlement attribute

Description

The number of entitlement units assigned to this LPAR.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

LPAR_ENTITLEMENT or LEO

WPAR FileSystem attribute group

This attribute group contains file system information for WPARs.

Historical group

This attribute group is eligible for use with Tivoli Data Warehouse.

Attribute descriptions

The following list contains information about each attribute in the WPAR FileSystem attribute group:

Node attribute: This attribute is a key attribute.

Description

The managed system name of the agent.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

NODE

Timestamp attribute

Description

The local time at the agent when the data was collected.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

TIMESTAMP

WPAR Name attribute

Description

The name of the WPAR.

Type

String

Warehouse name

WPAR_NAME

Mount Point attribute: This attribute is a key attribute.

Description

The file system mount point.

Type

String

Warehouse name

MOUNT_POINT or MP

Device Name attribute

Description

The file system mounted.

Type

String

Warehouse name

DEVICE_NAME or DN

VFS Type attribute

Description

The virtual file system type.

Type

String

Warehouse name

VFS_TYPE

Node Name attribute

Description

The name of the remote node.

Type

String

Warehouse name
 NODE_NAME

Mount Options attribute
Description
 The specified mount options.

Type
 String

Warehouse name
 MOUNT_OPTIONS or MO

WPAR Information attribute group

This attribute group contains the general configuration parameters of the WPARs.

Historical group

This attribute group is eligible for use with Tivoli Data Warehouse.

Attribute descriptions

The following list contains information about each attribute in the WPAR Information attribute group:

Node attribute: This attribute is a key attribute.

Description
 The managed system name of the agent.

Type
 String

Source
 The source for this attribute is the agent.

Warehouse name
 NODE

Timestamp attribute

Description
 The local time at the agent when the data was collected.

Type
 String

Source
 The source for this attribute is the agent.

Warehouse name
 TIMESTAMP

WPAR Name attribute: This attribute is a key attribute.

Description
 The name of the WPAR.

Type
 String

Warehouse name
 WPAR_NAME

Type attribute

Description
 The type of the WPAR.

Type
 Integer with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Application (0)
- System (1)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name
 TYPE

State attribute

Description

The current state of the WPAR.

Type

Integer with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Defined (0)
- Loaded (1)
- Active (2)
- Frozen (3)
- Paused (4)
- Transitional (5)
- Broken (6)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

STATE

Owner attribute

Description

The user ID that owns the WPAR.

Type

String

Warehouse name

OWNER

Hostname attribute

Description

The host name for the WPAR.

Type

String

Warehouse name

HOSTNAME

Home attribute

Description

The home directory for the WPAR.

Type

String

Warehouse name

HOME

Autostart attribute

Description

Indicates whether the WPAR starts on reboot.

Type

Integer with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- No (0)
- Yes (1)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

AUTOSTART

Shares usr Dir attribute

Description

Indicates whether the WPAR shares its /usr file system with the LPAR.

Type

Integer with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- No (0)
- Yes (1)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

SHARES_USR_DIR or SUD

Checkpointable attribute**Description**

Indicates whether the WPAR can be checkpointed or not.

Type

Integer with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- No (0)
- Yes (1)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

CHECKPOINTABLE or C

WPAR Application Path attribute**Description**

The full path of the executable file to run inside the Application WPAR.

Type

String

Warehouse name

WPAR_APPLICATION_PATH or WAP

RC Is Active attribute**Description**

Indicates whether the resource controls are active or not.

Type

Integer with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- No (0)
- Yes (1)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

RC_IS_ACTIVE or RIA

RC RSet attribute**Description**

The name of the configured Resource Set.

Type

String

Warehouse name

RC_RSET

RC CPU Shares attribute**Description**

The number of CPU shares for this WPAR.

Type
String
Warehouse name
RC_CPU_SHARES or RCS

RC CPU Limits Min attribute

Description
The minimum percentage of CPU that is guaranteed to the WPAR.

Type
String
Warehouse name
RC_CPU_LIMITS_MIN or RCLM

RC CPU Limits Soft Max attribute

Description
The maximum percentage of CPU that a WPAR can have when there is a contention for CPU.

Type
String
Warehouse name
RC_CPU_LIMITS_SOFT_MAX or RCLSM

RC CPU Limits Hard Max attribute

Description
The maximum percentage of CPU that a WPAR can have even if there is no contention for CPU.

Type
String
Warehouse name
RC_CPU_LIMITS_HARD_MAX or RCLHM

RC Memory Shares attribute

Description
The number of memory shares for this WPAR.

Type
String
Warehouse name
RC_MEMORY_SHARES or RMS

RC Memory Limits Min attribute

Description
The minimum percentage of memory that is guaranteed to the WPAR.

Type
String
Warehouse name
RC_MEMORY_LIMITS_MIN or RMLM

RC Memory Limits Soft Max attribute

Description
The maximum percentage of memory that a WPAR can have when there is a contention for memory.

Type
String
Warehouse name
RC_MEMORY_LIMITS_SOFT_MAX or RMLSM

RC Memory Limits Hard Max attribute

Description
The maximum percentage of memory that a WPAR can have even if there is no contention for memory.

Type
String

Warehouse name

RC_MEMORY_LIMITS_HARD_MAX or RMLHM

RC per Process VM Limit attribute

Description

The maximum amount of virtual memory that a process in the WPAR can consume.

Type

String

Warehouse name

RC_PER_PROCESS_VM_LIMIT or RPPVL

RC Max Processes attribute

Description

The total number of processes allowed in the WPAR.

Type

String

Warehouse name

RC_MAX_PROCESSES or RMP

RC Max Threads attribute

Description

The total number of threads allowed in the WPAR.

Type

String

Warehouse name

RC_MAX_THREADS or RMT

Admin Operation attribute

Description

The administrative operation being performed.

Type

String

Warehouse name

ADMIN_OPERATION or AO

Admin Process ID attribute

Description

The PID of the administrative operation being performed.

Type

String

Warehouse name

ADMIN_PROCESS_ID or API

Admin Start Time attribute

Description

The time when the administrative operation started.

Type

String

Warehouse name

ADMIN_START_TIME or AST

IP Address attribute

Description

The IP or Network address of the network interface.

Type

String

Warehouse name

IP_ADDRESS

WPAR Network attribute group

This attribute group contains network related information for WPARs.

Historical group

This attribute group is eligible for use with Tivoli Data Warehouse.

Attribute descriptions

The following list contains information about each attribute in the WPAR Network attribute group:

Node attribute: This attribute is a key attribute.

Description

The managed system name of the agent.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

NODE

Timestamp attribute

Description

The local time at the agent when the data was collected.

Type

String

Source

The source for this attribute is the agent.

Warehouse name

TIMESTAMP

WPAR Name attribute: This attribute is a key attribute.

Description

The name of the WPAR.

Type

String

Source

The source for this attribute is Script data.

Warehouse name

WPAR_NAME

Interface Name attribute

Description

The name of the network interface.

Type

String

Source

The source for this attribute is Script data.

Warehouse name

INTERFACE_NAME or IN

IP Address attribute

Description

The IP or network address of the network interface.

Type

String

Source

The source for this attribute is Script data.

Warehouse name

IP_ADDRESS

Network Mask attribute

Description

The internet network mask.

Type

String

Source
The source for this attribute is Script data.

Warehouse name
NETWORK_MASK or NM

Broadcast IP attribute

Description
The broadcast IP address.

Type
String

Source
The source for this attribute is Script data.

Warehouse name
BROADCAST_IP or BI

WPAR Physical Memory attribute group

This attribute group contains memory usage information for WPARs.

Historical group

This attribute group is eligible for use with Tivoli Data Warehouse.

Attribute descriptions

The following list contains information about each attribute in the WPAR Physical Memory attribute group:

Node attribute: This attribute is a key attribute.

Description
The managed system name of the agent.

Type
String

Source
The source for this attribute is the agent.

Warehouse name
NODE

Timestamp attribute

Description
The local time at the agent when the data was collected.

Type
String

Source
The source for this attribute is the agent.

Warehouse name
TIMESTAMP

WPAR Name attribute: This attribute is a key attribute.

Description
The name of the WPAR.

Type
String

Warehouse name
WPAR_NAME

Memory Size MB attribute

Description
The total amount of physical memory available to the WPAR in MB.

Type
Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)

- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

MEMORY_SIZE_MB or MSM

Used Memory MB attribute

Description

The amount of used (allocated) memory in the WPAR in MB.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

USED_MEMORY_MB or UMM

Free Memory MB attribute

Description

The amount of free (unallocated) memory in the WPAR in MB.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

FREE_MEMORY_MB or FMM

Free Memory Pct attribute

Description

The percentage of free memory in the WPAR.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

FREE_MEMORY_PCT or FMP

Used Memory Pct attribute

Description

The percentage of used memory in the WPAR.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

USED_MEMORY_PCT or UMP

LPAR Memory Used Pct attribute

Description

The percentage of LPAR memory used by the WPAR.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

LPAR_MEMORY_USED_PCT or LMUP

RC Memory Limits Hard Max attribute

Description

The maximum percentage of memory that a WPAR can have even if there is no contention for memory.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

RC_MEMORY_LIMITS_HARD_MAX or RMLHM

LPAR Memory Size MB attribute

Description

The total amount of physical memory available to the LPAR in MB.

Type

Integer (32-bit gauge) with enumerated values. The strings are displayed in the Tivoli Enterprise Portal. The warehouse and queries return the values that are shown in parentheses. The following values are defined:

- Not Collected (-1)
- Value Exceeds Minimum (-2147483648)
- Value Exceeds Maximum (2147483647)

Any other value is the value that is returned by the agent in the Tivoli Enterprise Portal.

Warehouse name

LPAR_MEMORY_SIZE_MB or LMSM

Disk capacity planning for historical data

Disk capacity planning for a monitoring agent is a prediction of the amount of disk space to be consumed by the historical data in each attribute group that is collecting historical data. Required disk storage is an important factor when you are defining data collection rules and your strategy for historical data collection.

The Capacity planning for historical data table provides the following information, which is required to calculate disk space for this monitoring agent:

Table Table name as it is displayed in the warehouse database, if the attribute group is configured to be written to the warehouse. The table name listed here corresponds to the table name in “Attribute groups for the monitoring agent” on page 21.

Attribute group

Name of the attribute group that is used to create the table in the warehouse database if it is short enough to fit in the table naming constraints of the database that is being used for the warehouse. The attribute group name listed here corresponds to the Warehouse table name in “Attribute groups for the monitoring agent” on page 21.

Bytes per row (agent)

Estimate of the record length for each row or instance that is written to the agent disk for historical data collection. This estimate can be used for agent disk space planning purposes.

Database bytes per row (warehouse)

Estimate of the record length for detailed records that are written to the warehouse database, if the attribute group is configured to be written to the warehouse. Detailed records are records that have been uploaded from the agent for long-term historical data collection. This estimate can be used for warehouse disk-space planning purposes.

Aggregate bytes per row (warehouse)

Estimate of the record length for aggregate records that are written to the warehouse database, if the attribute group is configured to be written to the warehouse. Aggregate records are created by the Summarization agent for attribute groups that have been configured for summarization. This estimate can be used for warehouse disk-space planning purposes.

In addition to the information in the tables, you must know the number of rows of data that you plan to collect. An attribute group can have single or multiple rows of data, depending on the application environment that is being monitored. For example, if your attribute group monitors each processor in your computer and you have a dual processor computer, the number of rows is two.

Table 1. Capacity planning for historical data logged by the AIX Premium agent

Table	Attribute group	Bytes per row (agent)	Database bytes per row (warehouse)	Aggregate bytes per row (warehouse)
KPX55AME	KPX_ACTIVE_MEMORY_EXPANSION	192	505	1922
KPX42ACTIV	KPX_ACTIVE_USERS	1708	1720	1757
KPX53MPOOL	KPX_AMS_POOL	112	177	547
KPX09CPUDE	KPX_CPU_DETAIL	248	288	1546
KPX08CPUSU	KPX_CPU_SUMMARY	268	469	1622
KPX41DEFIN	KPX_DEFINED_USERS	1664	1673	1749
KPX51DEVIC	KPX_DEVICES	556	557	594
KPX26DISKS	KPX_DISKS	460	615	1720
KPX30FILES	KPX_FILE_SYSTEMS	1056	1064	1296

Table 1. Capacity planning for historical data logged by the AIX Premium agent (continued)

Table	Attribute group	Bytes per row (agent)	Database bytes per row (warehouse)	Aggregate bytes per row (warehouse)
KPX36INTER	KPX_INTERNET_PROTOCOL_DETAIL	208	214	602
KPX35INTER	KPX_INTERNET_PROTOCOL_SUMMARY	104	107	417
KPX14LOGIC	KPX_LOGICAL_PARTITION	1104	1251	3061
KPX29LOGIC	KPX_LOGICAL_VOLUMES	1232	1238	1314
KPX52MPIOA	KPX_MPIO_ATTRIBUTES	556	557	594
KPX51MPIOA	KPX_MPIO_STATUS	556	557	594
KPX34NETWO	KPX_NETWORK_ADAPTERS_RATES	1024	1085	2889
KPX33NETWO	KPX_NETWORK_ADAPTERS_TOTALS	4036	4086	4123
KPX32NETWO	KPX_NETWORK_INTERFACES	1555	1563	1600
KPX16NIMRE	KPX_NIM_RESOURCES	2284	2295	2332
KPX13PAGIN	KPX_PAGING_SPACE	104	107	417
KPXPOBJST	KPX_PERFORMANCE_OBJECT_STATUS	288	289	326
KPX19PHYSI	KPX_PHYSICAL_MEMORY	112	117	505
KPX27PHYSI	KPX_PHYSICAL_VOLUMES	424	431	741
KPX17PRINT	KPX_PRINT_QUEUES	1420	1424	1461
KPX24PROCE	KPX_PROCESSES_DETAIL	2760	2802	3592
KPX23PROCE	KPX_PROCESSES_SUMMARY	108	112	461
KPX54QOS	KPX_QUALITY_OF_SERVICE	836	857	1206
KPX12SYSTE	KPX_SYSTEM_CALL	96	97	329
KPX11SYSTE	KPX_SYSTEM_IO	108	112	461
KPX56TADDM	KPX_TADDM	180	180	256
KPX37TCP	KPX_TCP	116	122	549
KPX02TOP50	KPX_TOP_50_CPU_PROCESSES	2488	2510	2637
KPX03TOP50	KPX_TOP_50_MEMORY_PROCESSES	2488	2510	2637
KPX20VIRTU	KPX_VIRTUAL_MEMORY_MANAGEMENT	128	137	681
KPX28VOLUM	KPX_VOLUME_GROUPS	304	311	699
KPX15WORKL	KPX_WORKLOAD_MANAGER	932	955	1850
KPX46WPARC	KPX_WPAR_CPU	364	373	722
KPX49WPFIL	KPX_WPAR_FILESYSTEM	1612	1638	1675
KPX50WPINF	KPX_WPAR_INFORMATION	5476	5583	5620
KPX48WPNET	KPX_WPAR_NETWORK	1356	1377	1414
KPX47WPPHM	KPX_WPAR_PHYSICAL_MEMORY	364	373	722

For more information about historical data collection, see “Managing historical data” in the *IBM Tivoli Monitoring Administrator’s Guide*.

Chapter 5. Situations reference

A situation is a logical expression involving one or more system conditions. Situations are used to monitor the condition of systems in your network. You can manage situations from the Tivoli Enterprise Portal by using the Situation Editor or from the command-line interface using the tacmd commands for situations. You can manage private situations in the private configuration XML file.

About situations

The monitoring agents that you use to monitor your system environment include a set of predefined situations that you can use as-is. You can also create new situations to meet your requirements.

Predefined situations contain attributes that check for system conditions common to many enterprises. Using predefined situations can improve the speed with which you can begin using the IBM Tivoli Monitoring: AIX Premium Agent. You can change the conditions or values being monitored by a predefined situation to the conditions or values best suited to your enterprise.

You can display predefined situations and create your own situations using the Situation editor. The Situation editor initially lists the situations associated with the Navigator item that you selected. When you click a situation name or create a situation, a panel opens with the following tabs:

Formula

Formula describing the condition being tested.

Distribution

List of managed systems (operating systems, subsystems, or applications) to which the situation can be distributed. All the AIX Premium agent managed systems are assigned by default.

Expert advice

Comments and instructions to be read in the event workspace.

Action

Command to be sent to the system.

EIF Customize forwarding of the event to an Event Integration Facility receiver. (Available when the Tivoli Enterprise Monitoring Server is configured to forward events.)

Until Options to close the event after a period of time, or when another situation becomes true.

Additional information about situations

The *Tivoli Enterprise Portal User's Guide* contains more information about predefined and custom situations and how to use them to respond to alerts.

For a list of the predefined situations and information about each individual situation for this monitoring agent, see "Predefined situations."

Predefined situations

The monitoring agent contains predefined situations, which are organized by Navigator item.

- AIX Premium
 - Not applicable
- Memory
 - KPX_memrepage_Info

- KPX_vmm_pginwait_Info
- KPX_vmm_pgfault_Info
- KPX_vmm_pgreclm_Info
- KPX_vmm_unpin_low_Warn
- KPX_vmm_pgout_pend_Info
- KPX_AME_CPU_Used_High_Warn
- KPX_AME_Deficit_Mem_Warn
- Networking
 - KPX_Pkts_Sent_Errors_Info
 - KPX_Sent_Pkts_Dropped_Info
 - KPX_Pkts_Recv_Errors_Info
 - KPX_Bad_Pkts_Recvd_Info
 - KPX_Recv_pkts_dropped_Info
 - KPX_Qoverflow_Info
 - KPX_Netwk_Bandwidth_High_Info
 - KPX_Media_Spd_Half_Duplex_Warn
 - KPX_perip_InputErrs_Info
 - KPX_perip_InputPkts_Drop_Info
 - KPX_perip_OutputErrs_Info
 - KPX_TCP_ConnInit_Info
 - KPX_TCP_ConnEst_Info
- Process
 - KPX_totproc_cs_Info
 - KPX_totproc_runq_avg_Info
 - KPX_totproc_load_avg_Info
 - KPX_totnum_procs_Info
 - KPX_perproc_IO_pgf_Info
 - KPX_perproc_nonIO_pgf_Info
 - KPX_perproc_memres_datsz_Info
 - KPX_perproc_memres_textsz_Info
 - KPX_perproc_mem_textsz_Info
 - KPX_perproc_vol_cs_Info
- Status
 - KPX_Device_Stopped_Warn
- Storage
 - KPX_Active_Disk_Pct_Info
 - KPX_Avg_Read_Transfer_MS_Info
 - KPX_Read_Timeouts_Per_Sec_Info
 - KPX_Failed_Read_Per_Sec_Info
 - KPX_Avg_Write_Transfer_MS_Info
 - KPX_Write_Timeout_Per_Sec_Info
 - KPX_Failed_Writes_Per_Sec_Info
 - KPX_Avg_Req_In_WaitQ_MS_Info
 - KPX_ServiceQ_Full_Per_Sec_Info
- System

- KPX_PHYP_Pct_High_Info
- KPX_Reduced_Proc_Freq_Info
- KPX_perCPU_syscalls_Info
- KPX_perCPU_forks_Info
- KPX_perCPU_execs_Info
- KPX_perCPU_cs_Info
- KPX_Tot_syscalls_Info
- KPX_Tot_forks_Info
- KPX_Tot_execs_Info
- KPX_LPARBusy_pct_Warn
- KPX_LPARPhyBusy_pct_Warn
- KPX_LPARvcs_Info
- KPX_LPARfreepool_Warn
- KPX_LPARPhanIntrs_Info
- KPX_LPARentused_Info
- KPX_LPARphyp_used_Info
- KPX_LPAR_MaxCPUCapUsed_Info
- KPX_LPAR_Moved_Info
- Top Resources
 - Not applicable
- User
 - KPX_user_acct_locked_Info
 - KPX_user_login_retries_Info
 - KPX_user_idletime_Info
- WPAR
 - KPX_WPAR_CPU_Usage_Warn
 - KPX_WPAR_Mem_Usage_Warn
 - KPX_WPAR_Broken_Warn
 - KPX_WPAR_RC_Inactive_Info
 - KPX_WPAR_Unlim_CPU_Shares_Info
 - KPX_WPAR_Min_CPU_Limit_Info
 - KPX_WPAR_Unlim_Mem_Shares_Info
 - KPX_WPAR_Min_Mem_Limit_Info
 - KPX_WPAR_Admin_Op_Info

Situation descriptions

Each situation description provides information about the situation that you can use to monitor the condition of systems in your network.

The situation descriptions provide the following information:

Description

Information about the conditions that the situation tests.

Formula

Syntax that contains one or more logical expressions that describe the conditions for the situation to monitor.

Distribution

Whether the situation is automatically distributed to instances of the agent or is available for manual distribution.

Run at startup

Whether the situation starts monitoring when the agent starts.

Sampling interval

Number of seconds that elapse between one sample of data that the monitoring agent collects for the server and the next sample.

Situation persistence

Whether the conditions specified in the situation evaluate to "true" for the defined number of occurrences in a row before the situation is raised. The default of one means that no persistence-checking takes place.

Severity

Severity of the predefined events: Warning, Informational, or Critical.

Clearing conditions

Controls when a true situation closes: after a period, when another situation is true, or whichever occurs first if both are selected.

AIX Premium Navigator item

No predefined situations are included for this Navigator item.

Memory Navigator item

The situation descriptions are organized by the Navigator item to which the situations are relevant.

KPX_memrepage_Info situation**Description**

The Physical Memory Repaging rate is high.

The situation is evaluated for the table.

Formula

*IF *VALUE KPX_PHYSICAL_MEMORY.Repaging_Rate *GT 10

See "Attributes in each attribute group" on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_vmm_pginwait_Info situation**Description**

The Virtual Memory Manager Page-In wait is higher than expected.

The situation is evaluated for the table.

Formula

*IF *VALUE KPX_VIRTUAL_MEMORY_MANAGEMENT.Pagein_Wait_per_Sec *GT 1000

See “Attributes in each attribute group” on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_vmm_pgfault_Info situation

Description

The VMM Page fault rate is higher than expected.

The situation is evaluated for the table.

Formula

*IF *VALUE KPX_VIRTUAL_MEMORY_MANAGEMENT.Page_Fault_per_Sec *GT 1000

See “Attributes in each attribute group” on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_vmm_pgreclm_Info situation

Description

The Virtual Memory Manager Page Reclaim is higher than expected.

The situation is evaluated for the table.

Formula

*IF *VALUE KPX_VIRTUAL_MEMORY_MANAGEMENT.Page_Reclaim_per_Sec *GT 1000

See “Attributes in each attribute group” on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_vmm_unpin_low_Warn situation**Description**

The amount of pinned memory is higher than expected.

The situation is evaluated for the table.

Formula`*IF *VALUE KPX_VIRTUAL_MEMORY_MANAGEMENT.Memory_Not_Pinned *LT 100`

See "Attributes in each attribute group" on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Warning

Clearing conditions

The situation clears when the condition becomes false.

KPX_vmm_pgout_pend_Info situation**Description**

The VMM page-outs pending is higher than expected.

The situation is evaluated for the table.

Formula`*IF *VALUE KPX_VIRTUAL_MEMORY_MANAGEMENT.Pending_Client_Pageout *GT 100`

See "Attributes in each attribute group" on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_AME_CPU_Used_High_Warn situation**Description**

The CPU used for memory compression is higher than expected.

The situation is evaluated for the table.

Formula`*IF *VALUE KPX_ACTIVE_MEMORY_EXPANSION.CPU_Used_Pct *GT 25`

See “Attributes in each attribute group” on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

30 seconds

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 2.

Error conditions

Warning

Clearing conditions

The situation clears when the condition becomes false.

KPX_AME_Deficit_Mem_Warn situation

Description

AME Deficit memory is greater than zero.

The situation is evaluated for the table.

Formula

*IF *VALUE KPX_ACTIVE_MEMORY_EXPANSION.Deficit_Memory_MB *GT 0

See “Attributes in each attribute group” on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

30 seconds

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 2.

Error conditions

Warning

Clearing conditions

The situation clears when the condition becomes false.

Networking Navigator item

The situation descriptions are organized by the Navigator item to which the situations are relevant.

KPX_Pkts_Sent_Errors_Info situation

Description

The packets sent error rate is higher than normal.

The situation is evaluated for each distinct value of the NAME attribute.

Formula

*IF *VALUE KPX_NETWORK_ADAPTERS_RATES.Pkts_Sent_Errors_per_Sec *GT 10

See “Attributes in each attribute group” on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_Sent_Pkts_Dropped_Info situation**Description**

The rate of dropped packets is higher than normal.

The situation is evaluated for each distinct value of the NAME attribute.

Formula

*IF *VALUE KPX_NETWORK_ADAPTERS_RATES.Sent_Pkts_Dropped_per_Sec *GT 10

See "Attributes in each attribute group" on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_Pkts_Recv_Errors_Info situation**Description**

The packets received error rate is higher than normal.

The situation is evaluated for each distinct value of the NAME attribute.

Formula

*IF *VALUE KPX_NETWORK_ADAPTERS_RATES.Pkts_Recv_Errors_per_Sec *GT 10

See "Attributes in each attribute group" on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_Bad_Pkts_Recv_Info situation**Description**

The rate that bad packets are received is higher than normal.

The situation is evaluated for each distinct value of the NAME attribute.

Formula

*IF *VALUE KPX_NETWORK_ADAPTERS_RATES.Bad_Pkts_Recvd_per_Sec *GT 10

See “Attributes in each attribute group” on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_Recv_pkts_dropped_Info situation**Description**

Rate that received packets are dropped is higher than normal.

The situation is evaluated for each distinct value of the NAME attribute.

Formula

*IF *VALUE KPX_NETWORK_ADAPTERS_RATES.Recv_Pkts_Dropped_per_Sec *GT 10

See “Attributes in each attribute group” on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_Qoverflow_Info situation**Description**

The transmit queue overflow rate is higher than normal.

The situation is evaluated for each distinct value of the NAME attribute.

Formula

*IF *VALUE KPX_NETWORK_ADAPTERS_RATES.Qoverflow_per_Sec *GT 10

See “Attributes in each attribute group” on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_Netwk_Bandwidth_High_Info situation**Description**

Bandwidth utilization for the interface is higher than expected.

The situation is evaluated for each distinct value of the NAME attribute.

Formula

```
*IF *VALUE KPX_NETWORK_ADAPTERS_RATES.Bandwidth_Util_Pct *GT 60
```

See "Attributes in each attribute group" on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is automatically distributed to instances of this agent.

Run at startup

Yes

Sampling interval

10 minutes

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 3.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_Media_Spd_Half_Duplex_Warn situation**Description**

Media speed selected is set to half duplex.

The situation is evaluated for each distinct value of Parent.

Formula

```
*IF *VALUE KPX_NETWORK_ADAPTERS_RATES.Media_Speed_Running *EQ 'Half Duplex'
```

See "Attributes in each attribute group" on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is automatically distributed to instances of this agent.

Run at startup

Yes

Sampling interval

30 seconds

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 1.

Error conditions

Warning

Clearing conditions

The situation clears when the condition becomes false.

KPX_perip_InputErrs_Info situation**Description**

The Internet Protocol input error rate is high.

The situation is evaluated for each distinct value of the NAME attribute.

Formula

*IF *VALUE KPX_INTERNET_PROTOCOL_DETAIL.Input_Errors_per_Sec *GT 100

See “Attributes in each attribute group” on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_perip_InputPkts_Drop_Info situation**Description**

The IP input packets dropped rate is higher than expected.

The situation is evaluated for each distinct value of the NAME attribute.

Formula

*IF *VALUE KPX_INTERNET_PROTOCOL_DETAIL.Input_Packets_Dropped_per_Sec *GT 100

See “Attributes in each attribute group” on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_perip_OutputErrs_Info situation**Description**

The Internet Protocol output error rate is higher than expected.

The situation is evaluated for each distinct value of the NAME attribute.

Formula

*IF *VALUE KPX_INTERNET_PROTOCOL_DETAIL.Output_Errors_per_Sec *GT 100

See “Attributes in each attribute group” on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_TCP_ConnInit_Info situation**Description**

The number of TCP connections initiated is high.

The situation is evaluated for each distinct value of the NAME attribute.

Formula

*IF *VALUE KPX_TCP.Connections_Initiated_per_Sec *GT 1000

See "Attributes in each attribute group" on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_TCP_ConnEst_Info situation**Description**

The Number of TCP connections established is high.

The situation is evaluated for each distinct value of the NAME attribute.

Formula

*IF *VALUE KPX_TCP.Connections_Established_per_Sec *GT 1000

See "Attributes in each attribute group" on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

Process Navigator item

The situation descriptions are organized by the Navigator item to which the situations are relevant.

KPX_totproc_cs_Info situation

Description

The number of Process Context Switches is higher than expected.

The situation is evaluated for the table.

Formula

*IF *VALUE KPX_PROCESSES_SUMMARY.Process_Context_Switches_per_Sec *GT 1000

See “Attributes in each attribute group” on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_totproc_runq_avg_Info situation**Description**

The process run queue is higher than expected.

The situation is evaluated for the table.

Formula

*IF *VALUE KPX_PROCESSES_SUMMARY.Run_Queue_Avg *GT 10

See “Attributes in each attribute group” on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_totproc_load_avg_Info situation**Description**

The process load average is higher than expected.

The situation is evaluated for the table.

Formula

*IF *VALUE KPX_PROCESSES_SUMMARY.Load_Avg *GT 10

See “Attributes in each attribute group” on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_totnum_procs_Info situation**Description**

The total number of processes is higher than expected.

The situation is evaluated for the table.

Formula

*IF *VALUE KPX_PROCESSES_SUMMARY.Total_Num_Processes *GT 1000

See "Attributes in each attribute group" on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_perproc_IO_pgf_Info situation**Description**

The process I/O page fault rate is higher than expected.

The situation is evaluated for each distinct value of the PN attribute.

Formula

*IF *VALUE KPX_PROCESSES_DETAIL.IO_Page_Fault_per_Sec *GT 10

See "Attributes in each attribute group" on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_perproc_nonIO_pgf_Info situation**Description**

The process non-I/O page fault rate is higher than expected.

The situation is evaluated for each distinct value of the PN attribute.

Formula

*IF *VALUE KPX_PROCESSES_DETAIL.Non_IO_Page_Fault_per_Sec *GT 100

See “Attributes in each attribute group” on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_perproc_memres_datasz_Info situation

Description

The process resident data size is larger than expected.

The situation is evaluated for each distinct value of the PN attribute.

Formula

*IF *VALUE KPX_PROCESSES_DETAIL.Resident_Data_Size *GT 100

See “Attributes in each attribute group” on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_perproc_memres_textsz_Info situation

Description

The process resident text size is larger than expected.

The situation is evaluated for each distinct value of the PN attribute.

Formula

*IF *VALUE KPX_PROCESSES_DETAIL.Resident_Text_Size *GT 100

See “Attributes in each attribute group” on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_perproc_mem_textsz_Info situation**Description**

The process text size is larger than expected.

The situation is evaluated for each distinct value of the PN attribute.

Formula

*IF *VALUE KPX_PROCESSES_DETAIL.Text_Size *GT 100

See "Attributes in each attribute group" on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_perproc_vol_cs_Info situation**Description**

The voluntary context switches rate is higher than expected.

The situation is evaluated for each distinct value of the PN attribute.

Formula

*IF *VALUE KPX_PROCESSES_DETAIL.Voluntary_Context_Switches_per_Sec *GT 100

See "Attributes in each attribute group" on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

Status Navigator item

The situation descriptions are organized by the Navigator item to which the situations are relevant.

KPX_Device_Stopped_Warn situation

Description

Triggers when the status of a device is not normal.

The situation is evaluated for each distinct value of the NAME attribute.

Formula

*IF *VALUE KPX_DEVICES.State *EQ 'Stopped'

See “Attributes in each attribute group” on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Warning

Clearing conditions

The situation clears when the condition becomes false.

Storage Navigator item

The situation descriptions are organized by the Navigator item to which the situations are relevant.

KPX_Active_Disk_Pct_Info situation

Description

The percentage of time the disks are busy is higher than normal.

The situation is evaluated for each distinct value of the NAME attribute.

Formula

*IF *VALUE KPX_DISKS.Active_Disk_Pct *GT 80

See “Attributes in each attribute group” on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_Avg_Read_Transfer_MS_Info situation

Description

The average time it takes to complete a disk read is high.

The situation is evaluated for each distinct value of the NAME attribute.

Formula

*IF *VALUE KPX_DISKS.Avg_Read_Transfer_MS *GT 5

See “Attributes in each attribute group” on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_Read_Timeouts_Per_Sec_Info situation**Description**

The number of disk read timeouts per second is high.

The situation is evaluated for each distinct value of the NAME attribute.

Formula

*IF *VALUE KPX_DISKS.Read_Timeouts_per_Sec *GT 10

See "Attributes in each attribute group" on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_Failed_Read_Per_Sec_Info situation**Description**

The number of failed disk read requests per second is high.

The situation is evaluated for each distinct value of the NAME attribute.

Formula

*IF *VALUE KPX_DISKS.Failed_Read_per_Sec *GT 10

See "Attributes in each attribute group" on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_Avg_Write_Transfer_MS_Info situation**Description**

The average time it takes to complete a disk write is high.

The situation is evaluated for each distinct value of the NAME attribute.

Formula

*IF *VALUE KPX_DISKS.Avg_Write_Transfer_MS *GT 5

See "Attributes in each attribute group" on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_Write_Timeout_Per_Sec_Info situation**Description**

The number of disk write timeouts per second is high.

The situation is evaluated for each distinct value of the NAME attribute.

Formula

*IF *VALUE KPX_DISKS.Write_Timeout_per_Sec *GT 10

See "Attributes in each attribute group" on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_Failed_Writes_Per_Sec_Info situation**Description**

The number of failed disk write requests per second is high.

The situation is evaluated for each distinct value of the NAME attribute.

Formula

*IF *VALUE KPX_DISKS.Failed_Writes_per_Sec *GT 10

See "Attributes in each attribute group" on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_Avg_Req_In_WaitQ_MS_Info situation**Description**

The time a disk transfer request is in the wait queue is high.

The situation is evaluated for each distinct value of the NAME attribute.

Formula

*IF *VALUE KPX_DISKS.Avg_Request_In_WaitQ_MS *GT 20

See "Attributes in each attribute group" on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_ServiceQ_Full_Per_Sec_Info situation**Description**

The rate at which the disk service queue becomes full is high.

The situation is evaluated for each distinct value of the NAME attribute.

Formula

*IF *VALUE KPX_DISKS.ServiceQ_Full_per_Sec *GT 5

See "Attributes in each attribute group" on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

System Navigator item

The situation descriptions are organized by the Navigator item to which the situations are relevant.

KPX_PHYP_Pct_High_Info situation

Description

The percent of time spent in the hypervisor is high.

The situation is evaluated for the table.

Formula

*IF *VALUE KPX_CPU_SUMMARY.Time_Spent_in_Hypervisor_Pct *GT 3

See "Attributes in each attribute group" on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

30 seconds

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 2.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_Reduced_Proc_Freq_Info situation

Description

The processor is operating at reduced rates.

The situation is evaluated for the table.

Formula

*IF *VALUE KPX_CPU_SUMMARY.Average_Operating_Frequency_Pct *LE 99 *AND *VALUE KPX_CPU_SUMMARY.Average_Operating_Frequency_Pct *GE 0

See "Attributes in each attribute group" on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

5 minutes

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 3.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_perCPU_syscalls_Info situation

Description

The number of syscalls per CPU is high.

The situation is evaluated for each distinct value of the CPU_NUMBER attribute.

Formula

*IF *VALUE KPX_CPU_DETAIL.Syscalls_per_Sec *GT 10000

See "Attributes in each attribute group" on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_perCPU_forks_Info situation**Description**

The number of forks per CPU is high.

The situation is evaluated for each distinct value of the CPU_NUMBER attribute.

Formula

*IF *VALUE KPX_CPU_DETAIL.Forks_per_Sec *GT 1000

See "Attributes in each attribute group" on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_perCPU_execs_Info situation**Description**

The number of execs per CPU is high.

The situation is evaluated for each distinct value of the CPU_NUMBER attribute.

Formula

*IF *VALUE KPX_CPU_DETAIL.Execs_per_Sec *GT 1000

See "Attributes in each attribute group" on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_perCPU_cs_Info situation**Description**

The number of context switches per CPU is high.

The situation is evaluated for each distinct value of the CPU_NUMBER attribute.

Formula

*IF *VALUE KPX_CPU_DETAIL.Context_Switches_per_Sec *GT 1000

See "Attributes in each attribute group" on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_Tot_syscalls_Info situation**Description**

The total number of syscalls is high.

The situation is evaluated for each distinct value of the CPU_NUMBER attribute.

Formula

*IF *VALUE KPX_SYSTEM_CALL.Num_Syscalls_per_Sec *GT 10000

See "Attributes in each attribute group" on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_Tot_forks_Info situation**Description**

The total number of forks is high.

The situation is evaluated for each distinct value of the CPU_NUMBER attribute.

Formula

*IF *VALUE KPX_SYSTEM_CALL.Forks_per_Sec *GT 1000

See "Attributes in each attribute group" on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_Tot_execs_Info situation**Description**

The total number of execs is high.

The situation is evaluated for each distinct value of the CPU_NUMBER attribute.

Formula

*IF *VALUE KPX_SYSTEM_CALL.Execs_per_Sec *GT 1000

See "Attributes in each attribute group" on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_LPARBusy_pct_Warn situation**Description**

The LPAR logical busy percentage is high.

The situation is evaluated for each distinct value of the CPU_NUMBER attribute.

Formula

*IF *VALUE KPX_LOGICAL_PARTITION.Busy_Pct *GT 95

See "Attributes in each attribute group" on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Warning

Clearing conditions

The situation clears when the condition becomes false.

KPX_LPARPhyBusy_pct_Warn situation**Description**

The LPAR physical busy percentage is high.

The situation is evaluated for each distinct value of the CPU_NUMBER attribute.

Formula

*IF *VALUE KPX_LOGICAL_PARTITION.Phys_Busy_Pct *GT 95

See “Attributes in each attribute group” on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Warning

Clearing conditions

The situation clears when the condition becomes false.

KPX_LPARvcs_Info situation**Description**

The LPAR virtual context switching rate is high.

The situation is evaluated for each distinct value of the CPU_NUMBER attribute.

Formula

*IF *VALUE KPX_LOGICAL_PARTITION.Virt_Context_CPU_Switches_per_Sec *GT 1000

See “Attributes in each attribute group” on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_LPARfreepool_Warn situation**Description**

The LPAR CPU free pool space is getting low.

The situation is evaluated for each distinct value of the CPU_NUMBER attribute.

Formula

*IF *VALUE KPX_LOGICAL_PARTITION.Unallocated_CPU_In_Pool *LT 100

See "Attributes in each attribute group" on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Warning

Clearing conditions

The situation clears when the condition becomes false.

KPX_LPARPhanIntrs_Info situation**Description**

The number of LPAR phantom interrupts is high.

The situation is evaluated for each distinct value of the CPU_NUMBER attribute.

Formula

*IF *VALUE KPX_LOGICAL_PARTITION.Phantom_Interrupts *GT 100

See "Attributes in each attribute group" on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_LPAREntused_Info situation**Description**

The LPAR CPU utilization is more than its entitlement.

The situation is evaluated for each distinct value of the CPU_NUMBER attribute.

Formula

*IF *VALUE KPX_LOGICAL_PARTITION.Entitlement_Pct *GT 100

See "Attributes in each attribute group" on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_LPARphyp_used_Info situation**Description**

The PHYP (hypervisor) is using more CPU than expected.

The situation is evaluated for each distinct value of the CPU_NUMBER attribute.

Formula

*IF *VALUE KPX_LOGICAL_PARTITION.Time_In_Hypervisor_Pct *GT 1

See “Attributes in each attribute group” on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_LPAR_MaxCPUCapUsed_Info situation**Description**

Triggers when Max_CPU_Cap_Used Pct GT 80%.

The situation is evaluated for each distinct value of the CPU_NUMBER attribute.

Formula

*IF *VALUE KPX_LOGICAL_PARTITION.Max_CPU_Cap_Used_Pct *GT 80

See “Attributes in each attribute group” on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_LPAR_Moved_Info situation**Description**

Triggers when last and current LPAR Machine ID are not equal.

The situation is evaluated for each distinct value of the CPU_NUMBER attribute.

Formula

*IF *VALUE KPX_LOGICAL_PARTITION.Machine_ID *NE
KPX_LOGICAL_PARTITION.Last_Machine_ID

See "Attributes in each attribute group" on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 1.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

Top Resources Navigator item

No predefined situations are included for this Navigator item.

User Navigator item

The situation descriptions are organized by the Navigator item to which the situations are relevant.

KPX_user_acct_locked_Info situation

Description

The user account is locked.

The situation is evaluated for each distinct value of the USER_NAME attribute.

Formula

*IF *SCAN KPX_DEFINED_USERS.Account_Locked *EQ 'true'

See "Attributes in each attribute group" on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 hour

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_user_login_retries_Info situation

Description

The user login retries is high.

The situation is evaluated for each distinct value of the USER_NAME attribute.

Formula

*IF *VALUE KPX_DEFINED_USERS.Loginretries *GT 4

See “Attributes in each attribute group” on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 hour

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_user_idletime_Info situation

Description

The user idle time is longer than expected.

The situation is evaluated for each distinct value of the USER_NAME attribute.

Formula

*IF *VALUE KPX_ACTIVE_USERS.Idle_Time *GT 86400

See “Attributes in each attribute group” on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 hour

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 24.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

WPAR Navigator item

The situation descriptions are organized by the Navigator item to which the situations are relevant.

KPX_WPAR_CPU_Usage_Warn situation

Description

The WPAR CPU utilization is high.

The situation is evaluated for each distinct value of the WPAR_NAME attribute.

Formula

*IF *VALUE KPX_WPAR_CPU.WPAR_CPU_Consumed_Pct *GT 95

See “Attributes in each attribute group” on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Warning

Clearing conditions

The situation clears when the condition becomes false.

KPX_WPAR_Mem_Usage_Warn situation**Description**

The WPAR Memory utilization is high.

The situation is evaluated for each distinct value of the WPAR_NAME attribute.

Formula

```
*IF *VALUE KPX_WPAR_PHYSICAL_MEMORY.Used_Memory_Pct *GT 95
```

See "Attributes in each attribute group" on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 5.

Error conditions

Warning

Clearing conditions

The situation clears when the condition becomes false.

KPX_WPAR_Broken_Warn situation**Description**

A WPAR has entered broken state.

The situation is evaluated for each distinct value of the WPAR_NAME attribute.

Formula

```
*IF *SCAN KPX_WPAR_INFORMATION.State *EQ 'Broken'
```

See "Attributes in each attribute group" on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 2.

Error conditions

Warning

Clearing conditions

The situation clears when the condition becomes false.

KPX_WPAR_RC_Inactive_Info situation**Description**

Resource controls are not active for this WPAR.

The situation is evaluated for each distinct value of the WPAR_NAME attribute.

Formula

*IF *SCAN KPX_WPAR_INFORMATION.RC_Is_Active *EQ 'No'

See “Attributes in each attribute group” on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 hour

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 2.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_WPAR_Unlim_CPU_Shares_Info situation**Description**

The WPAR CPU resource controls are set to unlimited.

The situation is evaluated for each distinct value of the WPAR_NAME attribute.

Formula

*IF *SCAN KPX_WPAR_INFORMATION.RC_CPU_Shares *EQ 'Unlimited' *AND *VALUE KPX_WPAR_INFORMATION.RC_CPU_Limits_Hard_Max *EQ 100

See “Attributes in each attribute group” on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 hour

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 2.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_WPAR_Min_CPU_Limit_Info situation**Description**

The WPAR CPU minimum resource control is not set.

The situation is evaluated for each distinct value of the WPAR_NAME attribute.

Formula

*IF *VALUE KPX_WPAR_INFORMATION.RC_CPU_Limits_Min *EQ 0

See “Attributes in each attribute group” on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 hour

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 2.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_WPAR_Unlim_Mem_Shares_Info situation**Description**

The WPAR Memory Share Resource Controls are set to unlimited.

The situation is evaluated for each distinct value of the WPAR_NAME attribute.

Formula

```
*IF *SCAN KPX_WPAR_INFORMATION.RC_Memory_Shares *EQ 'Unlimited' *AND *VALUE  
KPX_WPAR_INFORMATION.RC_Memory_Limits_Hard_Max *EQ 100
```

See “Attributes in each attribute group” on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 hour

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 2.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_WPAR_Min_Mem_Limit_Info situation**Description**

The WPAR memory limit minimum resource control is set to zero.

The situation is evaluated for each distinct value of the WPAR_NAME attribute.

Formula

```
*IF *VALUE KPX_WPAR_INFORMATION.RC_Memory_Limits_Min *EQ 0
```

See “Attributes in each attribute group” on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 hour

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 2.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

KPX_WPAR_Admin_Op_Info situation**Description**

The WPAR is running a system administration task.

The situation is evaluated for each distinct value of the WPAR_NAME attribute.

Formula

*IF *SCAN KPX_WPAR_INFORMATION.Admin_Operation *NE 'none'

See “Attributes in each attribute group” on page 24 for descriptions of the attributes in this formula.

Distribution

This situation is available for distribution.

Run at startup

No

Sampling interval

1 minute

Situation persistence

The number of times the conditions of the situation must occur for the situation to be true is 1.

Error conditions

Informational

Clearing conditions

The situation clears when the condition becomes false.

Chapter 6. Take Action commands reference

Take Action commands can be run from the portal client or included in a situation or a policy.

About Take Action commands

When included in a situation, the command runs when the situation becomes true. A Take Action command in a situation is also referred to as *reflex automation*. When you enable a Take Action command in a situation, you automate a response to system conditions. For example, you can use a Take Action command to send a command to restart a process on the managed system or to send a text message to a cell phone.

In advanced automation, policies are used to take actions, schedule work, and automate manual tasks. A policy comprises a series of automated steps called activities that are connected to create a workflow. After an activity is completed, the Tivoli Enterprise Portal receives return-code feedback, and advanced automation logic responds with subsequent activities that are prescribed by the feedback.

A basic Take Action command shows the return code of the operation in a message box that is displayed after the action is completed or in a log file. After you close this window, no further information is available for this action.

Additional information about Take Action commands

For more information about working with Take Action commands, see “Take Action commands” in the *Tivoli Enterprise Portal User’s Guide*.

Predefined Take Action commands

Not all agents have predefined Take Action commands. But you can create Take Action commands for any agent.

The IBM Tivoli Monitoring: AIX Premium Agent does not provide predefined Take Action commands.

Chapter 7. Policies reference

Policies are used as an advanced automation technique for implementing more complex workflow strategies than you can create through simple automation. All agents do not provide predefined policies, but you can create policies for any agent.

A *policy* is a set of automated system processes that can take actions, schedule work for users, or automate manual tasks. You use the Workflow Editor to design policies. You control the order in which the policy executes a series of automated steps, which are also called *activities*. Policies are connected to create a workflow. After an activity is completed, the Tivoli Enterprise Portal receives return-code feedback, and advanced automation logic responds with subsequent activities prescribed by the feedback.

For more information about working with policies, see “Automation with policies” in the *Tivoli Enterprise Portal User’s Guide*.

For information about using the Workflow Editor, see the *IBM Tivoli Monitoring Administrator’s Guide* or the Tivoli Enterprise Portal online help.

Predefined policies

Not all agents have predefined policies. But you can create policies for any agent.

The IBM Tivoli Monitoring: AIX Premium Agent does not provide predefined policies.

Chapter 8. Troubleshooting

Problems can be related to IBM Tivoli Monitoring or the specific agent that you are using.

For general troubleshooting information, see the *IBM Tivoli Monitoring Troubleshooting Guide*. For other problem-solving options, see “Support information” on page 241.

You can resolve some problems by ensuring that your system matches the system requirements listed in the Requirements topic of the agent user's guide.

The following activities can help you find a solution to the problem you are having:

- “Gathering product information for IBM Software Support”
- “Using logging” on page 220
- “Consulting the lists of identified problems and workarounds” on page 220

Gathering product information for IBM Software Support

Before contacting IBM Software Support about a problem you are experiencing with this product, gather the information shown in Table 2.

Table 2. Information to gather before contacting IBM Software Support

Information type	Description
Log files	Collect trace log files from failing systems. Most logs are located in a logs subdirectory on the host computer. See “Principal trace log files” on page 221 for lists of all trace log files and their locations. For general information about the IBM Tivoli Monitoring environment, see the <i>Tivoli Enterprise Portal User's Guide</i> .
AIX information	Version number and patch level
Operating system	Operating system version number and patch level
Messages	Messages and other information displayed on the screen
Version numbers for IBM Tivoli Monitoring	Version number of the following members of the monitoring environment: <ul style="list-style-type: none">• IBM Tivoli Monitoring. Also provide the patch level, if available.• IBM Tivoli Monitoring: AIX Premium Agent
Screen captures	Screen captures of incorrect output, if any
(UNIX systems only) Core dump files	If the system stops on UNIX systems, collect the core dump file from the <i>install_dir/bin</i> directory, where <i>install_dir</i> is the directory where you installed the monitoring agent.

You can use the `pdcollect` tool to collect the most commonly used information from a system. This tool gathers log files, configuration information, version information, and other data. For more information about using this tool, see “`pdcollect` tool” in the *IBM Tivoli Monitoring Troubleshooting Guide*.

For information about working with IBM Software Support, see IBM Support Portal Service Requests and PMRs ([http://www.ibm.com/support/entry/portal/Open_service_request/Software/Software_support_\(general\)](http://www.ibm.com/support/entry/portal/Open_service_request/Software/Software_support_(general))).

Using logging

Logging is the primary troubleshooting feature in the AIX Premium agent. *Logging* refers to the text messages and trace data that is generated by the AIX Premium agent. Messages and trace data are sent to a file.

Trace data captures transient information about the current operating environment when a component or application fails to operate as designed. IBM Software Support personnel use the captured trace information to determine the source of an error or unexpected condition. See “Trace logging” for more information.

Consulting the lists of identified problems and workarounds

Known problems are organized into types such as those in the following list to make them easier to locate:

- Installation and configuration
- General usage and operation
- Display of monitoring data
- Take Action commands

Information about symptoms and detailed workarounds for these types of problems is located in “Problems and workarounds” on page 230.

For general troubleshooting information, see the *IBM Tivoli Monitoring Troubleshooting Guide*.

Trace logging

Trace logs are used to capture information about the operating environment when component software fails to operate as designed.

The principal log type is the RAS (Reliability, Availability, and Serviceability) trace log. These logs are in the English language only. The RAS trace log mechanism is available for all components of IBM Tivoli Monitoring. Most logs are located in a logs subdirectory on the host computer. See the following information to learn how to configure and use trace logging:

- “Principal trace log files” on page 221
- “Examples: Using trace logs” on page 223
- “Setting RAS trace parameters by using the GUI” on page 224

Note: The documentation refers to the RAS facility in IBM Tivoli Monitoring as “RAS1.”

IBM Software Support personnel use the information captured by trace logging to trace a problem to its source or to determine why an error occurred. All components in the IBM Tivoli Monitoring environment have a default tracing level. The tracing level can be changed on a per-component level to adjust the type of trace information collected, the degree of trace detail, the number of trace logs to be kept, and the amount of disk space used for tracing.

Overview of log file management

Knowing the naming conventions for log files helps you to find the files.

Agent log file naming conventions

Table 3 on page 221 provides the names, locations, and descriptions of IBM Tivoli Monitoring general RAS1 log files. The log file names for the AIX Premium agent adhere to the following naming convention:

Windows systems

hostname_productcode_program_HEXtimestamp-nn.log

Linux and UNIX systems

hostname_productcode_program_HEXtimestamp-nn.log

Where:

hostname

Host name of the computer where the monitoring component is running.

productcode

Two-character product code. For IBM Tivoli Monitoring: AIX Premium Agent, the product code is px.

program

Name of the program being run.

HEXtimestamp

Hexadecimal time stamp representing the time at which the program started.

nn

Rolling log suffix.

Principal trace log files

Trace log files are located on various systems.

Table 3 contains locations, file names, and descriptions of trace logs that can help determine the source of problems with agents.

Table 3. Trace log files for troubleshooting agents

System where log is located	File name and path	Description
On the Tivoli Enterprise Monitoring Server	<ul style="list-style-type: none">• Windows: The IBM Tivoli Monitoring <i>timestamp.log</i> file in the <i>install_dir\InstallITM</i> path• UNIX: The <i>candle_installation.log</i> file in the <i>install_dir/logs</i> path• Linux: The <i>candle_installation.log</i> file in the <i>install_dir/logs</i> path	Provides details about products that are installed. Note: Trace logging is enabled by default. A configuration step is not required to enable this tracing.
On the Tivoli Enterprise Monitoring Server	The <i>Warehouse_Configuration.log</i> file is in the following location on Windows systems: <i>install_dir\InstallITM</i>	Provides details about the configuration of data warehousing for historical reporting.

Table 3. Trace log files for troubleshooting agents (continued)

System where log is located	File name and path	Description
On the Tivoli Enterprise Monitoring Server	<p>The name of the RAS log file is as follows:</p> <ul style="list-style-type: none"> • Windows: <i>install_dir\logs\hostname_ms_timestamp-nn.log</i> • UNIX: <i>install_dir/logs/hostname_ms_timestamp-nn.log</i> • Linux: <i>install_dir/logs/hostname_ms_timestamp-nn.log</i> <p>Note: File names for RAS1 logs include a hexadecimal time stamp.</p> <p>Also on UNIX systems, a log with a decimal time stamp is provided: <i>hostname_productcode_timestamp.log</i> and <i>hostname_productcode_timestamp.pid nnnnn</i> in the <i>install_dir/logs</i> path, where <i>nnnnn</i> is the process ID number.</p>	Traces activity on the monitoring server.
On the Tivoli Enterprise Portal Server	<p>The name of the RAS log file is as follows:</p> <ul style="list-style-type: none"> • Windows: <i>install_dir\logs\hostname_cq_HEXtimestamp-nn.log</i> • UNIX: <i>install_dir/logs/hostname_cq_HEXtimestamp-nn.log</i> • Linux: <i>install_dir/logs/hostname_cq_HEXtimestamp-nn.log</i> <p>Note: File names for RAS1 logs include a hexadecimal time stamp.</p> <p>Also on UNIX systems, a log with a decimal time stamp is provided: <i>hostname_productcode_timestamp.log</i> and <i>hostname_productcode_timestamp.pidnnnn</i> in the <i>install_dir/logs</i> path, where <i>nnnnn</i> is the process ID number.</p>	Traces activity on the portal server.
On the Tivoli Enterprise Portal Server	<p>The teps_odbc.log file is located in the following path:</p> <ul style="list-style-type: none"> • Windows: <i>install_dir\Install\ITM</i> • UNIX: <i>install_dir/logs</i> • Linux: <i>install_dir/logs</i> 	When you enable historical reporting, this log file traces the status of the warehouse proxy agent.
On the computer that hosts the monitoring agent	<p>The RAS1 log files are as follows:</p> <ul style="list-style-type: none"> • UNIX: <i>hostname_px_instance_name_kpxagent_HEXtimestamp-nn.log</i> in the <i>install_dir/logs</i> directory <p>These logs are in the following directories:</p> <ul style="list-style-type: none"> • UNIX: <i>install_dir/logs</i> 	Traces activity of the monitoring agent.

Table 3. Trace log files for troubleshooting agents (continued)

System where log is located	File name and path	Description
On the computer that hosts the monitoring agent	<p>The agent operations log files are as follows:</p> <p><i>instance_hostnamePX.LG0</i> is the current log created when the agent was started.</p> <p><i>instance_hostname_PX.LG1</i> is the backup of the previous log.</p> <p>These logs are in the following directory depending on the operating system that you are using:</p> <ul style="list-style-type: none"> • UNIX: <i>install_dir/logs</i> 	<p>Shows whether the agent could connect to the monitoring server. Shows which situations are started and stopped, and shows other events while the agent is running. A new version of this file is generated every time the agent is restarted.</p> <p>IBM Tivoli Monitoring generates one backup copy of the *.LG0 file with the tag .LG1. View the .LG1 tag to learn the following details regarding the <i>previous</i> monitoring session:</p> <ul style="list-style-type: none"> • Status of connectivity with the monitoring server • Situations that were running • The success or failure status of Take Action commands
<p>Definitions of variables:</p> <ul style="list-style-type: none"> • <i>timestamp</i> is a time stamp with a format that includes year (y), month (m), day (d), hour (h), and minute (m), as follows: yyyymmdd hhmm • <i>HEXtimestamp</i> is a hexadecimal representation of the time at which the process was started. • <i>install_dir</i> represents the directory path where you installed the IBM Tivoli Monitoring component. <i>install_dir</i> can represent a path on the computer that hosts the monitoring system, the monitoring agent, or the portal. • <i>instance</i> refers to the name of the database instance that you are monitoring. • <i>instance_name</i> refers to the name of the agent instance. • <i>hostname</i> refers to the name of the computer on which the IBM Tivoli Monitoring component runs. • <i>nm</i> represents the circular sequence in which logs are rotated. this value includes a range from 1 - 5, by default. The first is always retained because it includes configuration parameters. • <i>productcode</i> specifies the product code, for example, um for Universal Agent or nt for Windows systems. 		

For more information about the complete set of trace logs that are maintained on the monitoring server, see the *IBM Tivoli Monitoring Installation and Setup Guide*.

Examples: Using trace logs

You can open trace logs in a text editor to learn some basic facts about your IBM Tivoli Monitoring environment.

IBM Software Support applies specialized knowledge to analyze trace logs to determine the source of problems. The following examples are from the Tivoli Enterprise Monitoring Server log.

Example one

This excerpt shows the typical log for a failed connection between a monitoring agent and a monitoring server with the host name **server1a**:

```
(Thursday, August 11, 2005, 08:21:30-{94C}kdc10c1.c,105,"KDCL0_ClientLookup") status=1c020006,
"location server unavailable", ncs/KDC1_STC_SERVER_UNAVAILABLE
(Thursday, August 11, 2005, 08:21:35-{94C}kraarreg.cpp,1157,"LookupProxy") Unable to connect to
broker at ip.pipe:: status=0, "success", ncs/KDC1_STC_OK
(Thursday, August 11, 2005, 08:21:35-{94C}kraarreg.cpp,1402,"FindProxyUsingLocalLookup") Unable
to find running CMS on CT_CMSLIST <IP.PIPE:#server1a>
```

Example two

The following excerpts from the trace log *for the monitoring server* show the status of an agent, identified here as "Remote node." The name of the computer where the agent is running is **SERVER5B**:

```
(42C039F9.0000-6A4:kpxreqhb.cpp,649,"HeartbeatInserter") Remote node SERVER5B:PX is ON-LINE.
```

```
. . .  
(42C3079B.0000-6A4:kpxreqhb.cpp,644,"HeartbeatInserter") Remote node SERVER5B:PX is OFF-LINE.
```

See the following key points about the preceding excerpts:

- The monitoring server appends the **PX** product code to the server name to form a unique name (SERVER5B:PX) for this instance of the IBM Tivoli Monitoring: AIX Premium Agent. By using this unique name, you can distinguish multiple monitoring products that might be running on **SERVER5B**.
- The log shows when the agent started (ON-LINE) and later stopped (OFF-LINE) in the environment.
- For the sake of brevity, an ellipsis (...) represents the series of trace log entries that were generated while the agent was running.
- Between the ON-LINE and OFF-LINE log entries, the agent was communicating with the monitoring server.
- The ON-LINE and OFF-LINE log entries are always available in the trace log. All trace levels that are described in "Setting RAS trace parameters by using the GUI" provide these entries.

On Windows systems, you can use the following alternate method to view trace logs:

1. In the Windows **Start** menu, click **Program Files > IBM Tivoli Monitoring > Manage Tivoli Enterprise Monitoring Services**. The Manage Tivoli Enterprise Monitoring Services window is displayed.
2. Right-click a component and click **Advanced > View Trace Log** in the menu. For example, if you want to view the trace log of the IBM Tivoli Monitoring: AIX Premium Agent, right-click the name of that agent in the window. You can also use the viewer to access remote logs.

Note: The viewer converts time stamps in the logs to a format that is easier to read.

RAS trace parameters

Pinpoint a problem by setting detailed tracing of individual components of the monitoring agent and modules

See "Overview of log file management" on page 220 to ensure that you understand log rolling and can reference the correct log files when you manage log file generation.

Setting RAS trace parameters by using the GUI

On Windows systems, you can use the graphical user interface to set trace options.

About this task

The IBM Tivoli Monitoring: AIX Premium Agent uses RAS1 tracing and generates the logs described in Table 3 on page 221. The default RAS1 trace level is ERROR.

Procedure

1. Open the Manage Tivoli Enterprise Monitoring Services window.
2. Select **Advanced > Edit Trace Parm**s. The Tivoli Enterprise Monitoring Server Trace Parameters window is displayed.
3. Select a new trace setting in the pull-down menu in the **Enter RAS1 Filters** field or type a valid string.

- General error tracing. KBB_RAS1=ERROR
- Intensive error tracing. KBB_RAS1=ERROR (UNIT:kpx ALL)
- Maximum error tracing. KBB_RAS1=ERROR (UNIT:kpx ALL) (UNIT:kra ALL)

Note: As this example shows, you can set multiple RAS tracing options in a single statement.

4. Modify the value for Maximum Log Size Per File (MB) to change the log file size (changes LIMIT value).
5. Modify the value for Maximum Number of Log Files Per Session to change the number of log files per startup of a program (changes COUNT value).
6. Modify the value for Maximum Number of Log Files Total to change the number of log files for all startups of a program (changes MAXFILES value).
7. Optional: Click Y (Yes) in the **KDC_DEBUG Setting** menu to log information that can help you diagnose communications and connectivity problems between the monitoring agent and the monitoring server. The **KDC_DEBUG** setting and the **Maximum error tracing** setting can generate a large amount of trace logging. Use these settings only temporarily, while you are troubleshooting problems. Otherwise, the logs can occupy excessive amounts of hard disk space.
8. Click **OK**. You see a message reporting a restart of the monitoring agent so that your changes take effect.

What to do next

Monitor the size of the logs directory. Default behavior can generate a total of 45 - 60 MB for each agent that is running on a computer. For example, each database instance that you monitor can generate 45 - 60 MB of log data. See the “Procedure” section to learn how to adjust file size and numbers of log files to prevent logging activity from occupying too much disk space.

Regularly prune log files other than the RAS1 log files in the logs directory. Unlike the RAS1 log files that are pruned automatically, other log types can grow indefinitely, for example, the logs in Table 3 on page 221 that include a process ID number (PID).

Use collector trace logs as an additional source of troubleshooting information.

Note: The **KDC_DEBUG** setting and the **Maximum error tracing** setting can generate a large amount of trace logging. Use these settings only temporarily while you are troubleshooting problems. Otherwise, the logs can occupy excessive amounts of hard disk space.

Manually setting RAS trace parameters

You can manually edit the RAS1 trace logging parameters.

About this task

The AIX Premium agent uses RAS1 tracing and generates the logs described in Table 3 on page 221. The default RAS1 trace level is ERROR.

Procedure

1. Open the trace options file:
 - **UNIX systems:**

```
install_dir /config/px.config
```
2. Edit the line that begins with **KBB_RAS1=** to set trace logging preferences. For example, if you want detailed trace logging, set the **Maximum Tracing** option: KBB_RAS1=ERROR (UNIT:kpx ALL) (UNIT:kra ALL)
3. Edit the line that begins with **KBB_RAS1_LOG=** to manage the generation of log files:

- **MAXFILES:** The total number of files that are to be kept for all startups of a specific program. When this value is exceeded, the oldest log files are discarded. The default value is 9.
- **LIMIT:** The maximum size, in megabytes (MB) of a RAS1 log file. The default value is 5.
- IBM Software Support might guide you to modify the following parameters:
 - **COUNT:** The number of log files to keep in the rolling cycle of one program startup. The default is 3.
 - **PRESERVE:** The number of files that are not to be reused in the rolling cycle of one program startup. The default value is 1.

Note: The **KBB_RAS1_LOG** parameter also provides for the specification of the log file directory, log file name, and the inventory control file directory and name. Do not modify these values or log information can be lost.

4. Restart the monitoring agent so that your changes take effect.

What to do next

Monitor the size of the logs directory. Default behavior can generate a total of 45 - 60 MB for each agent that is running on a computer. For example, each database instance that you monitor can generate 45 - 60 MB of log data. See the “Procedure” section to learn how to adjust file size and numbers of log files to prevent logging activity from occupying too much disk space.

Regularly prune log files other than the RAS1 log files in the logs directory. Unlike the RAS1 log files that are pruned automatically, other log types can grow indefinitely, for example, the logs in Table 3 on page 221 that include a process ID number (PID).

Use collector trace logs as an additional source of troubleshooting information.

Note: The **KDC_DEBUG** setting and the **Maximum error tracing** setting can generate a large amount of trace logging. Use these settings only temporarily while you are troubleshooting problems. Otherwise, the logs can occupy excessive amounts of hard disk space.

Dynamic modification of trace settings

You can dynamically modify the trace settings for an IBM Tivoli Monitoring component, such as, Tivoli Enterprise Monitoring Server, Tivoli Enterprise Portal Server, most monitoring agents, and other components. You can access these components, except for a few monitoring agents, from the tracing utility.

Dynamic modification of the trace settings is the most efficient method, because you can do it without restarting the component. Settings take effect immediately. Modifications by this method are not persistent.

Note: When the component is restarted, the trace settings are read again from the .env file. Dynamically modifying these settings does not change the settings in the .env files. To modify these trace settings permanently, modify them in the .env files.

ras1

Run this command to modify the trace settings for a Tivoli Monitoring component.

The syntax is as follows:

```
ras1 set|list (UNIT|COMP: class_name ANY|ALL|Detail|ERROR|Flow|INPUT|Metrics|OUTPUT|STATE)
{(UNIT|COMP: class_name ANY|ALL|Detail|ERROR|Flow|INPUT|Metrics|OUTPUT|STATE)}
```

You can specify more than one component class to which to apply the trace settings.

Command options

set

Turns on or off tracing depending upon the value of its parameters. If the parameter is **ANY**, it turns it off. All other parameters turn on tracing based on the specified type or level.

list

Displays the default level and type of tracing that is set by default.

Parameters

The parameters that determine the component classes to which to apply the trace settings are as follows:

COMP: *class_name*

Modifies the trace setting for the name of the component class, as specified by *class_name*, for example, COMP:KDH. The output contains trace for the specified class.

UNIT: *class_name*

Modifies the trace setting for any unit that starts with the specified *class_name* value, for example, UNIT:kra. The output contains trace for any unit that begins with the specified filter pattern.

The parameters that determine the trace level and type are as follows:

ALL

Displays all trace levels, including every trace point defined for the component. This setting might result in a large amount of trace, so specify other parameters to exclude unwanted trace. You might require the **ALL** parameter to isolate a problem, which is the equivalent to setting "Error Detail Flow State Input Output Metrics".

ANY

Turns off tracing.

Detail

Displays detailed information about each function.

When entered with the *list* option, the trace is tagged with Det.

ERROR

Logs internal error conditions.

When entered with the *list* option, the trace is tagged with ER. The output can also be tagged with EVERYE+EVERYU+ER.

Flow

Displays control flow data for each function entry and exit.

When entered with the *list* option, the trace is tagged with Fl.

INPUT

Displays input data for each function.

When entered with the *list* option, the trace is tagged with IN.

Metrics

Displays metrics on each function.

When entered with the *list* option, the trace is tagged with ME.

OUTPUT

Displays output data for each function.

When entered with the *list* option, the trace is tagged with OUT.

State

Displays the status for each function.

When entered with the `list` option, the trace is tagged with `St`.

Example

If you enter `ras1 set (COMP:KDH ALL) (COMP:ACF1 ALL) (COMP:KDE ALL)`, the trace utility turns on all levels of tracing for all the files and functions for which KDH, ACF1, and KDE are the classes.

```
kbbcre1.c, 400, May 29 2007, 12:54:43, 1.1, *
kbbcrn1.c, 400, May 29 2007, 12:54:42, 1.1, *
kdhb1de.c, 400, May 29 2007, 12:59:34, 1.1, KDH
kdh0med.c, 400, May 29 2007, 12:59:24, 1.1, KDH
kdhsrej.c, 400, May 29 2007, 13:00:06, 1.5, KDH
kdhb1fh.c, 400, May 29 2007, 12:59:33, 1.1, KDH
kdhb1oe.c, 400, May 29 2007, 12:59:38, 1.2, KDH
kdhs1ns.c, 400, May 29 2007, 13:00:08, 1.3, KDH
kbbacd1.c, 400, May 29 2007, 12:54:27, 1.2, ACF1
kbbac1c.c, 400, May 29 2007, 12:54:27, 1.4, ACF1
kbbac1i.c, 400, May 29 2007, 12:54:28, 1.11, ACF1
vkdhscfn.c, 400, May 29 2007, 13:00:11, 1.1, KDH
kdhserq.c, 400, May 29 2007, 12:59:53, 1.1, KDH
kdhb1pr.c, 400, May 29 2007, 12:59:39, 1.1, KDH
kdhsgrh.c, 400, May 29 2007, 12:59:49, 1.1, KDH
kdh0uts.c, 400, May 29 2007, 12:59:23, 1.1, KDH
kdhsrsp.c, 400, May 29 2007, 13:00:13, 1.2, KDH
kdhs1rp.c, 400, May 29 2007, 13:00:12, 1.1, KDH
kdhscsv.c, 400, May 29 2007, 12:59:58, 1.9, KDH
kdebbac.c, 400, May 29 2007, 12:56:50, 1.10, KDE
...
```

Turning on tracing

To use the tracing utility, you must use a local logon credential for the computer. This tracing method uses the IBM Tivoli Monitoring Service Console. Access the Service Console by using a web browser.

About this task

When you start the Service Console, information is displayed about the components that are currently running on that computer. For example, these components are listed as follows:

- Tivoli Enterprise Portal Server: `cnp`
- Monitoring Agent for Windows OS: `nt`
- Tivoli Enterprise Monitoring Server: `ms`

After you log on, you can type a question mark (?) to display a list of the supported commands. Use the `ras1` command to modify trace settings. If you type this command in the field provided in the Service Console window and click **Submit**, the help for this command is displayed.

Procedure

1. Open a web browser and enter the URL to access the Service Console.

```
http://hostname:1920
```

where *hostname* is the IP address or host name of the computer on which the IBM Tivoli Monitoring component is running.

2. Click the hyperlink associated with the component for which you want to modify its trace settings.

Note: In the previous view, if you want to modify tracing for the Tivoli Enterprise Monitoring Server, select **IBM Tivoli Monitoring Service Console** under **Service Point: system.your host name_ms**.

3. Enter a user ID and password to access the system. This ID is any valid user that has access to the system.
4. Enter the command to turn on the required level of trace for the specified component classes or units.

```
ras1 set (UNIT|COMP: class_name ALL|Flow|ERROR|Detail|INPUT|Metrics|OUTPUT|STATE)
{(UNIT|COMP: class_name ALL|Flow|ERROR|Detail|INPUT|Metrics|OUTPUT|STATE)}
```

For example, to turn on the control flow trace for the KDE, the command is:

```
ras1 (COMP:KDE Flow)
```

Turning off tracing

You can use the IBM Tivoli Monitoring Service Console to run the **ras1** command and dynamically turn off tracing.

Procedure

1. Open a web browser and enter the URL to access the Service Console.

```
http://hostname:1920
```

where *hostname* is the IP address or host name of the computer on which the IBM Tivoli Monitoring component is running.

2. Click the hyperlink associated with the component for which you want to modify its trace settings.
3. Enter a user ID and password to access the system. This ID is any valid user that has access to the system.
4. Enter the command to turn off the required level of trace for the specified component classes or units.

```
ras1 set (UNIT|COMP: class_name ANY)
{(UNIT|COMP: class_name ANY)}
```

For example, to turn off tracing for the kbbcrd class of the Windows OS agent, the command is:

```
ras1 set (UNIT:kbbcrd ANY)
```

Setting trace parameters for the Tivoli Enterprise Console server

In addition to the trace information captured by IBM Tivoli Monitoring, you can also collect additional trace information for the Tivoli Enterprise Console components that gather event server metrics.

About this task

To collect this information, modify the `.tec_diag_config` file on the Tivoli Enterprise Console event server. Use the steps in the following procedure to modify the event server trace parameters.

Procedure

1. Open the `$BINDIR/TME/TEC/.tec_diag_config` file in an ASCII editor.
2. Locate the entries that configure trace logging for the agent components on the event server. Two entries are included, one for `tec_reception` and one for `tec_rule`:

```
# to debug Agent Utils
tec_reception Agent_Utils error /tmp/tec_reception
SP
```

```
# to debug Agent Utils
tec_rule Agent_Utils error /tmp/tec_rule
```

3. To gather additional trace information, modify these entries to specify a trace level of `trace2`:

```
# to debug Agent Utils
tec_reception Agent_Utils trace2 /tmp/tec_reception
SP
```

```
# to debug Agent Utils
tec_rule Agent_Utils trace2 /tmp/tec_rule
```

4. In addition, modify the `Highest_level` entries for `tec_rule` and `tec_reception`:

```
tec_reception Highest_level trace2
SP
tec_rule Highest_level trace2
```

Problems and workarounds

The known problems and workarounds are organized into types of problems that might occur with the AIX Premium agent, for example installation and configuration problems and workspace problems.

Note: You can resolve some problems by ensuring that your system matches the system requirements listed in Chapter 2, "Requirements and agent installation and configuration," on page 5.

For general troubleshooting information, see the *IBM Tivoli Monitoring Troubleshooting Guide*.

Installation and configuration troubleshooting

Problems can occur during installation, configuration, and uninstallation of the agent.

The problems and solutions in Table 4 can occur during installation, configuration, and uninstallation of the agent.

Table 4. Problems and solutions for installation and configuration

Problem	Solution
<p>(UNIX only) During a command-line installation, you choose to install a component that is currently installed, and you see the following warning: WARNING - you are about to install the SAME version of "component_name" where component_name is the name of the component that you are attempting to install.</p> <p>Note: This problem affects UNIX command-line installations. If you monitor only Windows environments, you see this problem if you choose to install a product component (for example, a monitoring server) on a UNIX system.</p>	<p>You must exit and restart the installation process. You cannot return to the list where you selected components to install. When you run the installer again, do not attempt to install any component that is currently installed.</p>
<p>A message similar to "Unable to find running CMS on CT_CMSLIST" in the log file is displayed.</p>	<p>If a message similar to "Unable to find running CMS on CT_CMSLIST" is displayed in the log file, the agent cannot connect to the monitoring server. Confirm the following points:</p> <ul style="list-style-type: none">• Do multiple network interface cards (NICs) exist on the system?• If multiple NICs exist on the system, find out which one is configured for the monitoring server. Ensure that you specify the correct host name and port settings for communication in the IBM Tivoli Monitoring environment.
<p>The system is experiencing high CPU usage.</p>	<p>Agent process: View the memory usage of the KPXCMA process. If CPU usage seems to be excessive, restart the monitoring agent.</p> <p>Network cards: The network card configurations can decrease the performance of a system. Each stream of packets that a network card receives (assuming that it is a broadcast or destined for the under-performing system) must generate a CPU interrupt and transfer the data through the I/O bus. If the network card in question is a bus-mastering card, work can be offloaded and a data transfer between memory and the network card can continue without using CPU processing power. Bus-mastering cards are 32-bit and are based on PCI or EISA bus architectures.</p>

Table 4. Problems and solutions for installation and configuration (continued)

Problem	Solution
The artwork in the installation panels in the Japanese environment are missing, and some panels have a truncation problem.	No solution is available for this problem at this time.
In the Install Prerequisites panel during agent installation, the following extra string displays in Russian: \r	No solution is available for this problem at this time.
In the Select Features panel during agent installation, the Description of each feature is in English only.	No solution is available for this problem at this time.
The following warning message is displayed during application support installation KCIIN1421W WARNING - unable to copy eclipse agent plugin file \$CANDLEHOME/\$ITM_BINARCH/cw/iehs/kpc/eclipse/plugins/com.ibm.kpc.doc where, <i>pc</i> is your two character product code.	Manually rename or delete the agent plug-in file and run the application support installation again.
Cannot find the agent support files for the Linux operating system.	Support files for all IBM Tivoli Monitoring supported operating systems are located on the support file image. Support files for the AIX operating system are located on the agent image.
The configuration panel is blank on 64-bit Windows systems where the Tivoli Enterprise Monitoring Agent Framework (component GL) is version 06.23.00.00 or 06.23.01.00.	Check the GL component version by running <code>kincinfo -t GL</code> from a Windows command line. Example: <code>%CANDLE_HOME%\Install\ITM\kincinfo -t GL</code> If the GL component version is 06.23.00.00 or 06.23.01.00, take one of the following actions: <ul style="list-style-type: none"> • Preferred action: Upgrade the Windows OS Agent to Version 6.2.3 Fix Pack 2. • Alternate action: Install the Agent Compatibility (AC) component from the IBM Tivoli Monitoring V6.2.3 Fix Pack 1 media. See Installing the Agent Compatibility (AC) component (http://pic.dhe.ibm.com/infocenter/tivihelp/v15r1/topic/com.ibm.itm.doc_6.2.3fp1/itm623FP1_install199.htm#acpininstall).

Table 5. General problems and solutions for uninstallation

Problem	Solution
The way to remove inactive managed systems (systems whose status is OFFLINE) from the Navigator tree in the portal is not obvious.	Use the following steps to remove, but not uninstall, an offline managed system from the Navigator tree: <ol style="list-style-type: none"> 1. Click the Enterprise icon in the Navigator tree. 2. Right-click, and then click Workspace > Managed System Status. 3. Right-click the offline managed system, and select Clear offline entry. <p>To uninstall the monitoring agent, use the procedure described in the <i>IBM Tivoli Monitoring Installation and Setup Guide</i>.</p>

Table 5. General problems and solutions for uninstallation (continued)

Problem	Solution
While running <code>./uninstall.sh</code> to uninstall the agent, one of its components, or both, you receive the following error message and the uninstallation does not complete: <code>uninstall.sh failure: KCI0766E could not find arch "aix536" in a JRE version file.</code>	Use the following separate, manual procedure for uninstalling the system monitor agent that monitors the Linux or UNIX operating system: <ol style="list-style-type: none"> 1. Stop the agent by running the following command: <code>InstDir/bin/itmcmd agent stop all</code> 2. Stop any other agents running from the same <code>InstDir</code> directory. 3. Issue the following command: <code>InstDir/bin/uninstall.sh REMOVE EVERYTHING</code> <p>Note: Running the <code>uninstall.sh</code> script with REMOVE EVERYTHING removes all agent files and deletes the installation subdirectory tree.</p>
The software inventory tag for the agent on UNIX and Linux systems is not removed during uninstallation of the agent.	After uninstalling the agent, manually remove the file named <code>full name of agent.cmptag</code> from the <code>\$CANDLEHOME/properties/version/</code> directory.

Remote deployment troubleshooting

Problems can occur with remote deployment and removal of agent software using the Agent Remote Deploy process.

Table 6 contains problems and solutions related to remote deployment.

Table 6. Remote deployment problems and solutions

Problem	Solution
While you are using the remote deployment feature to install the IBM Tivoli Monitoring: AIX Premium Agent, an empty command window is displayed on the target computer. This problem occurs when the target of remote deployment is a Windows computer. (For more information about the remote deployment feature, see the <i>IBM Tivoli Monitoring Installation and Setup Guide</i> .)	Do not close or modify this window. It is part of the installation process and is dismissed automatically.
The removal of a monitoring agent fails when you use the remote removal process in the Tivoli Enterprise Portal desktop or browser.	This problem might occur when you attempt the remote removal process immediately after you restart the Tivoli Enterprise Monitoring Server. You must allow time for the monitoring agent to refresh its connection with the Tivoli Enterprise Monitoring Server before you begin the remote removal process.

Agent troubleshooting

A problem can occur with the agent after it has been installed.

Table 7 contains problems and solutions that can occur with the agent after it is installed.

Table 7. Agent problems and solutions

Problem	Solution
Log data accumulates too rapidly.	Check the RAS trace option settings, which are described in "Setting RAS trace parameters by using the GUI" on page 224. The trace option settings that you can set on the <code>KBB_RAS1=</code> and <code>KDC_DEBUG=</code> lines potentially generate large amounts of data.

Table 7. Agent problems and solutions (continued)

Problem	Solution
<p>No data is displayed in the Tivoli Enterprise Portal for all attribute groups.</p>	<p>Inspect the data in the Performance Object Status attribute group and restart the agent.</p>
<p>Empty workspace views are displayed in the Tivoli Enterprise Portal.</p>	<p>IBM Tivoli Monitoring uses timeout settings during agent metric gathering as a way to avoid prolonged waits for data at the Tivoli Enterprise Portal client. When an agent takes longer than the portal timeout period to provide data, the requesting portal workspaces show empty views.</p> <p>The IBM Tivoli Monitoring System p agents implement metric caching to alleviate running into these timeouts when metric data acquisition is taking a long time. When data is retrieved by the agent, it caches the attribute group returned to the portal. Metrics gathered within the portal timeout period are readily displayed on the console. Those attribute groups taking longer are displayed from the cache while the agent continues to collect data in the background for the original request.</p> <p>Because of the way some metrics are gathered, certain metrics take longer than the default timeout and fail to make it to the cache before the portal timeout expires.</p> <p>Typically, this problem is caused by network traffic, SSH communication overhead, HMC IPC communication layer, Logical Volume Manager communication layer and possible other circumstances. As a result, the portal displays empty workspace views for these attribute groups. The workspace shows data only when the data has been cached.</p> <p>The following attribute groups are affected by these behaviors:</p> <ul style="list-style-type: none"> • File Systems • Physical Volumes • Logical Volumes • Network Adapter Totals • Network Adapter Rates

Table 7. Agent problems and solutions (continued)

Problem	Solution
<p>CPU, network interface, and Workload Manager (WLM) metrics are not dynamically updated in the CPU Detail, Workload Manager, and Internet Protocol Detail attribute groups if these resources are added or removed after the AIX Premium agent is started.</p>	<p>Metrics for these attribute groups are taken from the System Performance Measurement Interface (SPMI) shared library. After the SPMI is initialized, it creates a list of CPUs, network interfaces, and WLM classes configured. The SPMI library does not reinitialize these lists until one of the following occurs:</p> <ol style="list-style-type: none"> 1. The system is restarted. 2. The number of consumers using the library goes to zero, and programs that were using the library end their SPMI connection gracefully. 3. The SPMI shared library is manually restarted. <p>Restarting the IBM Tivoli Monitoring agent might not solve the problem if other SPMI consumers are active. A consumer is any program that has established a connection with the SPMI to acquire data. It is also possible to have a program that is a DDS (Dynamic Data Supplier) that provides data to the SPMI. Some examples of both are: <code>topas</code>, <code>xmtopas</code>, <code>xmservd</code>, <code>xmtrend</code>, and the IBM Tivoli Monitoring: AIX Premium Agent.</p> <p>To recycle the SPMI without restarting:</p> <ol style="list-style-type: none"> 1. All data SPMI consumers and DDSs must end. 2. Ensure that no remaining Shared Memory IDs start with a key of 0x78. 3. If so, issue <code>ipcrm -m id</code>. 4. Issue <code>slibclean</code>.

Table 7. Agent problems and solutions (continued)

Problem	Solution
<p>A configured and running instance of the monitoring agent is not displayed in the Tivoli Enterprise Portal, but other instances of the monitoring agent on the same system are displayed in the portal.</p>	<p>IBM Tivoli Monitoring products use Remote Procedure Call (RPC) to define and control product behavior. RPC is the mechanism that a client process uses to make a subroutine call (such as GetTimeOfDay or ShutdownServer) to a server process somewhere in the network. Tivoli processes can be configured to use TCP/UDP, TCP/IP, SNA, and SSL as the protocol (or delivery mechanism) for RPCs that you want.</p> <p>IP.PIPE is the name given to Tivoli TCP/IP protocol for RPCs. The RPCs are socket-based operations that use TCP/IP ports to form socket addresses. IP.PIPE implements virtual sockets and multiplexes all virtual socket traffic across a single physical TCP/IP port (visible from the netstat command).</p> <p>A Tivoli process derives the physical port for IP.PIPE communications based on the configured, well-known port for the hub Tivoli Enterprise Monitoring Server. (This well-known port or BASE_PORT is configured by using the 'PORT:' keyword on the KDC_FAMILIES / KDE_TRANSPORT environment variable and defaults to '1918'.)</p> <p>The physical port allocation method is defined as (BASE_PORT + 4096*N), where N=0 for a Tivoli Enterprise Monitoring Server process and N={1, 2, ..., 15} for another type of monitoring server process. Two architectural limits result as a consequence of the physical port allocation method:</p> <ul style="list-style-type: none"> • No more than one Tivoli Enterprise Monitoring Server reporting to a specific Tivoli Enterprise Monitoring Server hub can be active on a system image. • No more than 15 IP.PIPE processes can be active on a single system image. <p>A single system image can support any number of Tivoli Enterprise Monitoring Server processes (address spaces) if each Tivoli Enterprise Monitoring Server on that image reports to a different hub. By definition, one Tivoli Enterprise Monitoring Server hub is available per monitoring enterprise, so this architecture limit has been reduced to one Tivoli Enterprise Monitoring Server per system image.</p> <p>No more than 15 IP.PIPE processes or address spaces can be active on a single system image. With the first limit expressed earlier, this second limitation refers specifically to Tivoli Enterprise Monitoring Agent processes: no more than 15 agents per system image.</p> <p>Continued on next row.</p>

Table 7. Agent problems and solutions (continued)

Problem	Solution
Continued from previous row.	This limitation can be circumvented (at current maintenance levels, IBM Tivoli Monitoring V6.1, Fix Pack 4 and later) if the Tivoli Enterprise Monitoring Agent process is configured to use the EPHEMERAL IP.PIPE process. (This process is IP.PIPE configured with the 'EPHEMERAL:Y' keyword in the KDC_FAMILIES / KDE_TRANSPORT environment variable). The number of ephemeral IP.PIPE connections per system image has no limitation. If ephemeral endpoints are used, the Warehouse Proxy agent is accessible from the Tivoli Enterprise Monitoring Server associated with the agents using ephemeral connections either by running the Warehouse Proxy agent on the same computer or by using the Firewall Gateway feature. (The Firewall Gateway feature relays the Warehouse Proxy agent connection from the Tivoli Enterprise Monitoring Server computer to the Warehouse Proxy agent computer if the Warehouse Proxy agent cannot coexist on the same computer.)
The AIX Premium agent reports the state of network adapters and network interfaces. An "Available" state signifies that the adapter hardware is physically installed and configured successfully. It also means that the network interface is configured with an IP address and it is in an "Up" state. These network adapters are also shown as "Available" in the Tivoli Enterprise Portal. However, those network interfaces that are not configured with an IP address or in a "Defined" state are not shown in the Tivoli Enterprise Portal. Also, the Tivoli Enterprise Portal shows some "ent0" and "ent1" network adapters as "Stopped".	It is common that unused ports that are not configured with an IP address are not be plugged with any network cables for security purposes. You must remember this consideration when you view interfaces that are described as "Stopped" in the Tivoli Enterprise Portal.

Workspace troubleshooting

Problems can occur with general workspaces and agent-specific workspaces.

Table 8 on page 237 contains problems and solutions related to workspaces.

Table 8. Workspace problems and solutions

Problem	Solution
<p>The process application components are available, but the Availability status shows PROCESS_DATA_NOT_AVAILABLE.</p>	<p>This problem occurs because the PerfProc performance object is disabled. When this condition exists, IBM Tivoli Monitoring cannot collect performance data for this process. Use the following steps to confirm that this problem exists and to resolve it:</p> <ol style="list-style-type: none"> 1. In the Windows Start menu, click Run. 2. Type perfmon.exe in the Open field of the Run window. The Performance window is displayed. 3. Click the plus sign (+) in the toolbar. The Add Counters window is displayed. 4. Look for Process in the Performance object menu. 5. Complete one of the following actions: <ul style="list-style-type: none"> • If you see Process in the menu, the PerfProc performance object is enabled and the problem is coming from a different source. You might need to contact IBM Software Support. • If you do not see Process in the menu, use the Microsoft utility from the Microsoft.com Operations website to enable the PerfProc performance object. The Process performance object becomes visible in the Performance object menu of the Add Counters windows, and IBM Tivoli Monitoring is able to detect Availability data. 6. Restart the monitoring agent.
<p>The name of the attribute does not display in a bar chart or graph view.</p>	<p>When a chart or graph view that includes the attribute is scaled to a small size, a blank space is displayed instead of a truncated name. To see the name of the attribute, expand the view of the chart until sufficient space is available to display all characters of the attribute name.</p>
<p>You start collection of historical data but the data cannot be seen.</p>	<p>Use the following managing options for historical data collection:</p> <ul style="list-style-type: none"> • Basic historical data collection populates the Warehouse with raw data. This type of data collection is turned off by default. For information about managing this feature including how to set the interval at which data is collected, see “Managing historical data” in the <i>IBM Tivoli Monitoring Administrator’s Guide</i>. By setting a more frequent interval for data collection, you reduce the load on the system incurred every time data is uploaded. • Use the Summarization and Pruning agent to collect specific amounts and types of historical data. Historical data is not displayed until the Summarization and Pruning monitoring agent begins collecting the data. By default, this agent begins collection at 2 a.m. daily. At that point, data is visible in the workspace view. For information about how to modify the default collection settings, see “Managing historical data” in the <i>IBM Tivoli Monitoring Administrator’s Guide</i>.

Table 8. Workspace problems and solutions (continued)

Problem	Solution
Historical data collection is unavailable because of incorrect queries in the Tivoli Enterprise Portal.	<p>The Sort By, Group By, and First/Last functions column are not compatible with the historical data collection feature. Use of these advanced functions makes a query ineligible for historical data collection.</p> <p>Even if data collection has started, you cannot use the time span feature if the query for the chart or table includes column functions or advanced query options (Sort By, Group By, First / Last).</p> <p>To ensure support of historical data collection, do not use the Sort By, Group By, or First/Last functions in your queries.</p> <p>For information about the historical data collection function, See “Managing historical data” in the <i>IBM Tivoli Monitoring Administrator’s Guide</i> or the Tivoli Enterprise Portal online help .</p>
When you use a long process name in the situation, the process name is truncated.	Truncation of process or service names for situations in the Availability table in the portal display is the expected behavior. The maximum name length is 100 bytes.
Regular (non-historical) monitoring data fails to be displayed.	Check the formation of the queries you use to gather data. For example, look for invalid SQL statements.
Navigator items and workspace titles are labeled with internal names such as Kxx:KXX0000 instead of the correct names (such as Disk), where XX and xx represent the two-character agent code.	<p>Ensure that application support has been added on the monitoring server, portal server, and portal client.</p> <p>For more information about installing application support, see “Installing and enabling application support” in the <i>IBM Tivoli Monitoring Installation and Setup Guide</i>.</p>

Situation troubleshooting

Problems can occur with situations and situation configuration.

Table 9 contains problems and solutions for situations.

Table 9. Situation problems and solutions

Problem	Solution
Monitoring activity requires too much disk space.	Check the RAS trace logging settings that are described in “Setting RAS trace parameters by using the GUI” on page 224. For example, trace logs grow rapidly when you apply the ALL logging option.
Monitoring activity requires too many system resources.	“Disk capacity planning for historical data” on page 179 describes the performance impact of specific attribute groups. If possible, decrease your use of the attribute groups that require greater system resources.
A formula that uses mathematical operators appears to be incorrect. For example, if you were monitoring a Linux system, the formula that calculates when Free Memory falls under 10 percent of Total Memory does not work: <code>LT #'Linux_VM_Stats.Total_Memory' / 10</code>	<p>This formula is incorrect because situation predicates support only logical operators. Your formulas cannot have mathematical operators.</p> <p>Note: The Situation Editor provides alternatives to math operators. In the example, you can select the % Memory Free attribute and avoid the need for math operators.</p>

Table 9. Situation problems and solutions (continued)

Problem	Solution
You want to change the appearance of situations when they are displayed in the navigation tree.	<ol style="list-style-type: none"> 1. Right-click an item in the navigation tree. 2. Click Situations in the menu. The Situation Editor window is displayed. 3. Select the situation that you want to modify. 4. Use the State menu to set the status and appearance of the Situation when it triggers. <p>Note: The State setting is not related to severity settings in the Tivoli Enterprise Console.</p>
When a situation is triggered in the Event Log attribute group, it remains in the Situation Event Console as long as the event ID entry is present in the Event Log workspace. When this event ID entry is removed from the Event Log workspace on the Tivoli Enterprise Portal, the situation is also cleared even if the actual problem that caused the event is not resolved, and the event ID entry is also present in the Windows Event Viewer.	<p>A timeout occurs on the cache of events for the NT Event Log group. Increase the cache time of Event Log collection to meet your requirements by adding the following variable and timeout value to the <code>KpcENV</code> file for the agent (where <code>pc</code> is the two-letter product code):</p> <pre>CDP_NT_EVENT_LOG_CACHE_TIMEOUT=3600</pre> <p>This variable determines how long events from the NT Event Log are kept.</p>
The situation for a specific agent is not visible in the Tivoli Enterprise Portal.	<p>Open the Situation Editor. Access the All managed servers view. If the situation is not displayed, confirm that the monitoring server has been seeded for the agent. If not, seed the server, as described in the <i>IBM Tivoli Monitoring Installation and Setup Guide</i>.</p>
The monitoring interval is too long.	<p>Access the Situation Editor view for the situation that you want to modify. Check the Sampling interval area in the Formula tab. Adjust the time interval as required.</p>
The situation did not activate at startup.	<p>Manually recycle the situation as follows:</p> <ol style="list-style-type: none"> 1. Right-click the situation and select Stop Situation. 2. Right-click the situation and select Start Situation. <p>Note: You can permanently avoid this problem by selecting the Run at Startup check box of the Situation Editor view for a specific situation.</p>
The situation is not displayed.	<p>Click the Action tab and check whether the situation has an automated corrective action. This action can occur directly or through a policy. The situation might be resolving so quickly that you do not see the event or the update in the graphical user interface.</p>
An Alert event did not occur even though the predicate was correctly specified.	<p>Check the logs, reports, and workspaces.</p>
A situation fires on an unexpected managed object.	<p>Confirm that you distributed and started the situation on the correct managed system.</p>
The product did not distribute the situation to a managed system.	<p>Click the Distribution tab and check the distribution settings for the situation.</p>

Table 9. Situation problems and solutions (continued)

Problem	Solution
<p>The situation does not fire.</p>	<p>This problem can be caused when incorrect predicates are present in the formula that defines the situation. For example, the managed object shows a state that normally triggers a monitoring event, but the situation is not true because the wrong attribute is specified in the formula.</p> <p>In the Formula tab, analyze predicates as follows:</p> <ol style="list-style-type: none"> 1. Click the fx icon in the Formula area. The Show formula window is displayed. <ol style="list-style-type: none"> a. Confirm the following details in the Formula area of the window: <ul style="list-style-type: none"> • The attributes that you intend to monitor are specified in the formula. • The situations that you intend to monitor are specified in the formula. • The logical operators in the formula match your monitoring goal. • The numeric values in the formula match your monitoring goal. b. (Optional) Select the Show detailed formula check box to see the original names of attributes in the application or operating system that you are monitoring. c. Click OK to dismiss the Show formula window. 2. (Optional) In the Formula area of the Formula tab, temporarily assign numeric values that immediately trigger a monitoring event. The triggering of the event confirms that other predicates in the formula are valid. <p>Note: After you complete this test, you must restore the numeric values to valid levels so that you do not generate excessive monitoring data based on your temporary settings.</p> <p>For additional information about situations that do not fire, see “Situations are not firing” in the <i>IBM Tivoli Monitoring Troubleshooting Guide</i>.</p>
<p>Situation events are not displayed in the Events Console view of the workspace.</p>	<p>Associate the situation with a Navigator item.</p> <p>Note: The situation does not need to be displayed in the workspace. It is sufficient that the situation is associated with any Navigator item.</p>
<p>You do not have access to a situation.</p>	<p>Note: You must have administrator privileges to complete these steps.</p> <ol style="list-style-type: none"> 1. Click Edit > Administer Users to access the Administer Users window. 2. In the Users area, select the user whose privileges you want to modify. 3. In the Permissions tab, Applications tab, and Navigator Views tab, select the permissions or privileges that correspond to the user role. 4. Click OK.

Table 9. Situation problems and solutions (continued)

Problem	Solution
A managed system seems to be offline.	<ol style="list-style-type: none"> 1. Select Physical View and click the Enterprise Level of the navigator tree. 2. Click View > Workspace > Managed System Status to see a list of managed systems and their status. 3. If a system is offline, check network connectivity and the status of the specific system or application.

Take Action commands troubleshooting

Problems can occur with Take Action commands.

Table 10 contains problems and solutions that can occur with Take Action commands.

When each Take Action command runs, it generates a log file listed in Table 3 on page 221.

Table 10. Take Action commands problems and solutions

Problem	Solution
Take Action commands often require several minutes to complete.	Allow several minutes. If you do not see a message advising you of completion, try to run the command manually.
Situations fail to trigger Take Action commands.	Attempt to manually run the Take Action command in the Tivoli Enterprise Portal. If the Take Action command works, look for configuration problems in the situation. See "Situation troubleshooting" on page 238. If the Take Action command fails, for general information about troubleshooting Take Action commands, see the <i>IBM Tivoli Monitoring Troubleshooting Guide</i> .

Support information

If you have a problem with your IBM software, you want to resolve it quickly.

IBM provides the following ways for you to obtain the support you need:

Online

The following websites contain troubleshooting information:

- Go to the IBM Software Support website (<http://www.ibm.com/support/entry/portal/software>) and follow the instructions.
- Go to the Application Performance Management Wiki (<http://www.ibm.com/developerworks/servicemanagement/apm/index.html>). Feel free to contribute to this wiki.

IBM Support Assistant

The IBM Support Assistant (ISA) is a free local software serviceability workbench that helps you resolve questions and problems with IBM software products. The ISA provides quick access to support-related information and serviceability tools for problem determination. To install the ISA software, go to the IBM Support Assistant website (<http://www.ibm.com/software/support/isa>).

Appendix A. Event mapping

The Tivoli Event Integration Facility (EIF) interface is used to forward situation events to Tivoli Netcool/OMNIBus or Tivoli Enterprise Console.

EIF events specify an event class, and the event data is specified as name-value pairs that identify the name of an event slot and the value for the slot. An event class can have subclasses. IBM Tivoli Monitoring provides the base event class definitions and a set of base slots that are included in all monitoring events. Agents extend the base event classes to define subclasses that include agent-specific slots. For AIX Premium agent events, the event classes correspond to the agent attribute groups, and the agent-specific slots correspond to the attributes in the attribute group.

The situation editor in the Tivoli Enterprise Portal can be used to perform custom mapping of data to EIF slots instead of using the default mapping described in this topic. For more information about EIF slot customization, see the *Tivoli Enterprise Portal User's Guide*.

Tivoli Enterprise Console requires that event classes and their slots are defined in BAROC (Basic Recorder of Objects in C) files. Each agent provides a BAROC file that contains event class definitions for the agent and is installed on the Tivoli Enterprise Monitoring Server in the TECLIB directory (`install_dir/cms/TECLIB` for Windows systems and `install_dir/tables/TEMS_hostname/TECLIB` for UNIX systems) when application support for the agent is installed. The BAROC file for the agent and the base BAROC files provided with Tivoli Monitoring must also be installed onto the Tivoli Enterprise Console. For details, see "Setting up event forwarding to Tivoli Enterprise Console" in the *IBM Tivoli Monitoring Installation and Setup Guide*.

Each of the event classes is a child of `KPX_Base` and is defined in the `kpx.baroc` (version 06.22.03) file. The `KPX_Base` event class can be used for generic rules processing for any event from the IBM Tivoli Monitoring: AIX Premium Agent.

For events that are generated by situations in the Active Memory Expansion attribute group, events are sent by using the `ITM_KPX_ACTIVE_MEMORY_EXPANSION` event class. This event class contains the following slots:

- `node`: STRING
- `timestamp`: STRING
- `ame_mode`: INTEGER
- `ame_mode_enum`: STRING
- `true_memory_size_mb`: REAL
- `true_memory_size_mb_enum`: STRING
- `target_memory_expansion_factor`: REAL
- `target_memory_expansion_factor_enum`: STRING
- `current_memory_expansion_factor`: REAL
- `current_memory_expansion_factor_enum`: STRING
- `effective_memory_size_mb`: REAL
- `effective_memory_size_mb_enum`: STRING
- `target_compressed_mem_size_mb`: REAL
- `target_compressed_mem_size_mb_enum`: STRING
- `max_compressed_mem_size_mb`: REAL
- `max_compressed_mem_size_mb_enum`: STRING
- `min_uncompressed_mem_size_mb`: REAL

- min_uncompressed_mem_size_mb_enum: STRING
- compressed_mem_size_mb: REAL
- compressed_mem_size_mb_enum: STRING
- compressed_data_size_mb: REAL
- compressed_data_size_mb_enum: STRING
- uncompressed_data_size_mb: REAL
- uncompressed_data_size_mb_enum: STRING
- compressed_mem_inuse_mb: REAL
- compressed_mem_inuse_mb_enum: STRING
- compressed_mem_inuse_pct: REAL
- compressed_mem_inuse_pct_enum: STRING
- compressed_mem_pct: REAL
- compressed_mem_pct_enum: STRING
- compressed_mem_free_mb: REAL
- compressed_mem_free_mb_enum: STRING
- compressed_mem_free_pct: REAL
- compressed_mem_free_pct_enum: STRING
- compression_ratio: REAL
- compression_ratio_enum: STRING
- compressed_mem_page_ins: INTEGER
- compressed_mem_page_ins_enum: STRING
- compressed_mem_page_outs: INTEGER
- compressed_mem_page_outs_enum: STRING
- compressed_num_working_pages: INTEGER
- compressed_num_working_pages_enum: STRING
- uncompressed_mem_size_mb: REAL
- uncompressed_mem_size_mb_enum: STRING
- uncompressed_mem_inuse_mb: REAL
- uncompressed_mem_inuse_mb_enum: STRING
- uncompressed_mem_inuse_pct: REAL
- uncompressed_mem_inuse_pct_enum: STRING
- uncompressed_mem_free_pct: REAL
- uncompressed_mem_free_pct_enum: STRING
- uncompressed_true_mem_inuse_pct: REAL
- uncompressed_true_mem_inuse_pct_enum: STRING
- uncompressed_num_working_pages: INTEGER
- uncompressed_num_working_pages_enum: STRING
- cpu_used_pct: REAL
- cpu_used_pct_enum: STRING
- deficit_memory_mb: REAL
- deficit_memory_mb_enum: STRING
- deficit_expansion_factor: REAL
- deficit_expansion_factor_enum: STRING

For events that are generated by situations in the Active Users attribute group, events are sent by using the ITM_KPX_ACTIVE_USERS event class. This event class contains the following slots:

- node: STRING
- timestamp: STRING
- user_name: STRING
- tty: STRING
- login_date_time: STRING
- kpx_hostname: STRING
- idle_time: STRING
- jcpu: STRING
- pcpu: STRING
- current_process: STRING

For events that are generated by situations in the AMS Pool attribute group, events are sent by using the ITM_KPX_AMS_POOL event class. This event class contains the following slots:

- node: STRING
- timestamp: STRING
- ams_mode: INTEGER
- ams_mode_enum: STRING
- ams_pool_id: INTEGER
- ams_pool_id_enum: STRING
- ams_pool_size: REAL
- ams_pool_size_enum: STRING
- ams_physical_mem: REAL
- ams_physical_mem_enum: STRING
- ams_mem_loaned: INTEGER
- ams_mem_loaned_enum: STRING
- ams_memory_entitlement: INTEGER
- ams_memory_entitlement_enum: STRING
- ams_memory_ent_inuse: REAL
- ams_memory_ent_inuse_enum: STRING
- hypervisor_page_ins: REAL
- hypervisor_page_ins_enum: STRING
- hypervisor_page_ins_time: REAL
- hypervisor_page_ins_time_enum: STRING

For events that are generated by situations in the CPU Detail attribute group, events are sent by using the ITM_KPX_CPU_DETAIL event class. This event class contains the following slots:

- node: STRING
- timestamp: STRING
- cpu_number: STRING
- user_cpu_pct: INTEGER
- user_cpu_pct_enum: STRING
- system_cpu_pct: INTEGER
- system_cpu_pct_enum: STRING
- io_wait_cpu_pct: INTEGER

- io_wait_cpu_pct_enum: STRING
- idle_cpu_pct: INTEGER
- idle_cpu_pct_enum: STRING
- context_switches_per_sec: INTEGER
- context_switches_per_sec_enum: STRING
- syscalls_per_sec: INTEGER
- syscalls_per_sec_enum: STRING
- reads_per_sec: INTEGER
- reads_per_sec_enum: STRING
- writes_per_sec: INTEGER
- writes_per_sec_enum: STRING
- forks_per_sec: INTEGER
- forks_per_sec_enum: STRING
- execs_per_sec: INTEGER
- execs_per_sec_enum: STRING
- read_char_per_sec: INTEGER
- read_char_per_sec_enum: STRING
- write_char_per_sec: INTEGER
- write_char_per_sec_enum: STRING
- inode_lookup_per_sec: INTEGER
- inode_lookup_per_sec_enum: STRING
- path_name_lookup_per_sec: INTEGER
- path_name_lookup_per_sec_enum: STRING
- dir_blk_scans_per_sec: INTEGER
- dir_blk_scans_per_sec_enum: STRING
- minor_page_faults: INTEGER
- minor_page_faults_enum: STRING
- major_page_faults: INTEGER
- major_page_faults_enum: STRING
- interrupts: INTEGER
- interrupts_enum: STRING
- involuntary_context_switches: INTEGER
- involuntary_context_switches_enum: STRING
- run_queue: INTEGER
- run_queue_enum: STRING
- logical_processor_affinity: INTEGER
- logical_processor_affinity_enum: STRING
- message_ops: INTEGER
- message_ops_enum: STRING
- semaphore_ops: INTEGER
- semaphore_ops_enum: STRING
- blocks_read: INTEGER
- blocks_read_enum: STRING
- blocks_write: INTEGER
- blocks_write_enum: STRING

- logical_read_requests: INTEGER
- logical_read_requests_enum: STRING
- logical_write_requests: INTEGER
- logical_write_requests_enum: STRING
- physical_reads: INTEGER
- physical_reads_enum: STRING
- physical_writes: INTEGER
- physical_writes_enum: STRING
- logical_context_switches: INTEGER
- logical_context_switches_enum: STRING
- physical_consumption: REAL
- physical_consumption_enum: STRING

For events that are generated by situations in the CPU Summary attribute group, events are sent by using the ITM_KPX_CPU_SUMMARY event class. This event class contains the following slots:

- node: STRING
- timestamp: STRING
- system_software_version: STRING
- number_of_cpus: INTEGER
- number_of_cpus_enum: STRING
- user_cpu_pct: INTEGER
- user_cpu_pct_enum: STRING
- system_cpu_pct: INTEGER
- system_cpu_pct_enum: STRING
- io_wait_cpu_pct: INTEGER
- io_wait_cpu_pct_enum: STRING
- idle_cpu_pct: INTEGER
- idle_cpu_pct_enum: STRING
- physical_consumption: REAL
- physical_consumption_enum: STRING
- donation_enablement: INTEGER
- donation_enablement_enum: STRING
- donated_idle_cycles_pct: REAL
- donated_idle_cycles_pct_enum: STRING
- donated_busy_cycles_pct: REAL
- donated_busy_cycles_pct_enum: STRING
- stolen_idle_cycles_pct: REAL
- stolen_idle_cycles_pct_enum: STRING
- stolen_busy_cycles_pct: REAL
- stolen_busy_cycles_pct_enum: STRING
- hypervisor_calls: INTEGER
- hypervisor_calls_enum: STRING
- time_spent_in_hypervisor_pct: REAL
- time_spent_in_hypervisor_pct_enum: STRING
- donating_lpars: INTEGER

- donating_lpars_enum: STRING
- average_operating_frequency_ghz: REAL
- average_operating_frequency_ghz_enum: STRING
- average_operating_frequency_pct: INTEGER
- average_operating_frequency_pct_enum: STRING
- actual_average_physical_cpu_user: REAL
- actual_average_physical_cpu_user_enum: STRING
- actual_average_physical_cpu_system: REAL
- actual_average_physical_cpu_system_enum: STRING
- actual_average_physical_cpu_idle: REAL
- actual_average_physical_cpu_idle_enum: STRING
- actual_average_physical_cpu_wait: REAL
- actual_average_physical_cpu_wait_enum: STRING
- normalized_average_physical_cpu_user: REAL
- normalized_average_physical_cpu_user_enum: STRING
- normalized_average_physical_cpu_system: REAL
- normalized_average_physical_cpu_system_enum: STRING
- normalized_average_physical_cpu_idle: REAL
- normalized_average_physical_cpu_idle_enum: STRING
- normalized_average_physical_cpu_wait: REAL
- normalized_average_physical_cpu_wait_enum: STRING

For events that are generated by situations in the Defined Users attribute group, events are sent by using the ITM_KPX_DEFINED_USERS event class. This event class contains the following slots:

- node: STRING
- timestamp: STRING
- user_name: STRING
- roles: STRING
- account_locked: STRING
- expires: STRING
- loginretries: INTEGER
- loginretries_enum: STRING

For events that are generated by situations in the Devices attribute group, events are sent by using the ITM_KPX_DEVICES event class. This event class contains the following slots:

- node: STRING
- timestamp: STRING
- name: STRING
- parent: STRING
- type: STRING
- state: STRING
- kpx_class: STRING

For events that are generated by situations in the Disks attribute group, events are sent by using the ITM_KPX_DISKS event class. This event class contains the following slots:

- node: STRING
- timestamp: STRING

- name: STRING
- parent: STRING
- type: STRING
- active_disk_pct: REAL
- active_disk_pct_enum: STRING
- transfers_bytes_per_sec: INTEGER
- transfers_bytes_per_sec_enum: STRING
- transfers_kb_per_sec: INTEGER
- transfers_kb_per_sec_enum: STRING
- transfers_per_sec: INTEGER
- transfers_per_sec_enum: STRING
- read_kb_per_sec: INTEGER
- read_kb_per_sec_enum: STRING
- written_kb_per_sec: INTEGER
- written_kb_per_sec_enum: STRING
- read_transfers_per_sec: INTEGER
- read_transfers_per_sec_enum: STRING
- avg_read_transfer_ms: REAL
- avg_read_transfer_ms_enum: STRING
- min_read_service_ms: REAL
- min_read_service_ms_enum: STRING
- max_read_service_ms: REAL
- max_read_service_ms_enum: STRING
- read_timeouts_per_sec: INTEGER
- read_timeouts_per_sec_enum: STRING
- failed_read_per_sec: INTEGER
- failed_read_per_sec_enum: STRING
- write_transfers_per_sec: INTEGER
- write_transfers_per_sec_enum: STRING
- avg_write_transfer_ms: REAL
- avg_write_transfer_ms_enum: STRING
- min_write_service_ms: REAL
- min_write_service_ms_enum: STRING
- max_write_service_ms: REAL
- max_write_service_ms_enum: STRING
- write_timeout_per_sec: REAL
- write_timeout_per_sec_enum: STRING
- failed_writes_per_sec: INTEGER
- failed_writes_per_sec_enum: STRING
- avg_request_in_waitq_ms: REAL
- avg_request_in_waitq_ms_enum: STRING
- min_request_in_waitq_ms: REAL
- min_request_in_waitq_ms_enum: STRING
- max_request_in_waitq_ms: REAL
- max_request_in_waitq_ms_enum: STRING

- avg_waitq_size: INTEGER
- avg_waitq_size_enum: STRING
- avg_serviceq_size: INTEGER
- avg_serviceq_size_enum: STRING
- serviceq_full_per_sec: INTEGER
- serviceq_full_per_sec_enum: STRING

For events that are generated by situations in the File Systems attribute group, events are sent by using the ITM_KPX_FILE_SYSTEMS event class. This event class contains the following slots:

- node: STRING
- timestamp: STRING
- name: STRING
- mount_point: STRING
- volume_group_name: STRING
- size_mb: INTEGER
- size_mb_enum: STRING
- free_mb: INTEGER
- free_mb_enum: STRING
- used_mb: INTEGER
- used_mb_enum: STRING
- free_pct: INTEGER
- free_pct_enum: STRING
- used_pct: INTEGER
- used_pct_enum: STRING

For events that are generated by situations in the Internet Protocol Detail attribute group, events are sent by using the ITM_KPX_INTERNET_PROTOCOL_DETAIL event class. This event class contains the following slots:

- node: STRING
- timestamp: STRING
- name: STRING
- packets_received_per_sec: INTEGER
- packets_received_per_sec_enum: STRING
- ioctet_received_kb_per_sec: INTEGER
- ioctet_received_kb_per_sec_enum: STRING
- input_errors_per_sec: INTEGER
- input_errors_per_sec_enum: STRING
- multicast_pkt_received_per_sec: INTEGER
- multicast_pkt_received_per_sec_enum: STRING
- input_packets_dropped_per_sec: INTEGER
- input_packets_dropped_per_sec_enum: STRING
- packets_transmitted_per_sec: INTEGER
- packets_transmitted_per_sec_enum: STRING
- ioctet_transmitted_kb_per_sec: INTEGER
- ioctet_transmitted_kb_per_sec_enum: STRING
- output_errors_per_sec: INTEGER

- output_errors_per_sec_enum: STRING
- multicast_pkt_transmitted_per_sec: INTEGER
- multicast_pkt_transmitted_per_sec_enum: STRING

For events that are generated by situations in the Internet Protocol Summary attribute group, events are sent by using the ITM_KPX_INTERNET_PROTOCOL_SUMMARY event class. This event class contains the following slots:

- node: STRING
- timestamp: STRING
- packets_received_per_sec: INTEGER
- packets_received_per_sec_enum: STRING
- frag_received_per_sec: INTEGER
- frag_received_per_sec_enum: STRING
- packets_forwarded_per_sec: INTEGER
- packets_forwarded_per_sec_enum: STRING
- received_datagrams_per_sec: INTEGER
- received_datagrams_per_sec_enum: STRING
- transmitted_datagrams_per_sec: INTEGER
- transmitted_datagrams_per_sec_enum: STRING
- total_packets_reassembled_per_sec: INTEGER
- total_packets_reassembled_per_sec_enum: STRING
- frag_output_packets_per_sec: INTEGER
- frag_output_packets_per_sec_enum: STRING

For events that are generated by situations in the Logical Partition attribute group, events are sent by using the ITM_KPX_LOGICAL_PARTITION event class. This event class contains the following slots:

- node: STRING
- timestamp: STRING
- user_cpu_pct: INTEGER
- user_cpu_pct_enum: STRING
- system_cpu_pct: INTEGER
- system_cpu_pct_enum: STRING
- io_wait_cpu_pct: INTEGER
- io_wait_cpu_pct_enum: STRING
- idle_cpu_pct: INTEGER
- idle_cpu_pct_enum: STRING
- entitlement: REAL
- entitlement_enum: STRING
- total_used_pct: INTEGER
- total_used_pct_enum: STRING
- entitlement_used_pct: INTEGER
- entitlement_used_pct_enum: STRING
- lpar_number: INTEGER
- lpar_number_enum: STRING
- shared_mode: STRING
- capped_mode: STRING

- smt_mode: STRING
- number_of_physical_cpus: INTEGER
- number_of_physical_cpus_enum: STRING
- number_of_virtual_cpus: INTEGER
- number_of_virtual_cpus_enum: STRING
- number_of_logical_cpus: INTEGER
- number_of_logical_cpus_enum: STRING
- available_cpus_in_pool: INTEGER
- available_cpus_in_pool_enum: STRING
- number_of_physical_cpus_in_shared_pool: INTEGER
- number_of_physical_cpus_in_shared_pool_enum: STRING
- busy_pct: INTEGER
- busy_pct_enum: STRING
- phys_busy_pct: INTEGER
- phys_busy_pct_enum: STRING
- virt_context_cpu_switches_per_sec: INTEGER
- virt_context_cpu_switches_per_sec_enum: STRING
- max_memory: INTEGER
- max_memory_enum: STRING
- min_memory: INTEGER
- min_memory_enum: STRING
- max_phys_cpus: INTEGER
- max_phys_cpus_enum: STRING
- min_virt_cpus: INTEGER
- min_virt_cpus_enum: STRING
- max_virt_cpus: INTEGER
- max_virt_cpus_enum: STRING
- min_cpu_capacity: INTEGER
- min_cpu_capacity_enum: STRING
- max_cpu_capacity: INTEGER
- max_cpu_capacity_enum: STRING
- cpu_capacity_increment: INTEGER
- cpu_capacity_increment_enum: STRING
- online_mem: INTEGER
- online_mem_enum: STRING
- max_dispatch_latency: INTEGER
- max_dispatch_latency_enum: STRING
- unallocated_cpu_in_pool: INTEGER
- unallocated_cpu_in_pool_enum: STRING
- cpu_entitlement: INTEGER
- cpu_entitlement_enum: STRING
- capacity_weight: INTEGER
- capacity_weight_enum: STRING
- min_req_virt_cpu: INTEGER
- min_req_virt_cpu_enum: STRING

- phantom_interrupts: INTEGER
- phantom_interrupts_enum: STRING
- entitlement_pct: INTEGER
- entitlement_pct_enum: STRING
- num_hypervisor_calls_per_sec: INTEGER
- num_hypervisor_calls_per_sec_enum: STRING
- time_in_hypervisor_pct: INTEGER
- time_in_hypervisor_pct_enum: STRING
- machine_id: STRING
- uptime: STRING
- kpx_hostname: STRING
- physical_cpu_units_used: REAL
- physical_cpu_units_used_enum: STRING
- available_cpu_units_in_pool: REAL
- available_cpu_units_in_pool_enum: STRING
- physical_cpu_size_of_shared_pool: REAL
- physical_cpu_size_of_shared_pool_enum: STRING
- last_machine_id: STRING
- max_cpu_cap_used_pct: REAL
- max_cpu_cap_used_pct_enum: STRING
- poolid: INTEGER
- poolid_enum: STRING
- pool_entitlement: REAL
- pool_entitlement_enum: STRING
- maximum_pool_capacity: REAL
- maximum_pool_capacity_enum: STRING
- smt_threads: INTEGER
- smt_threads_enum: STRING
- entitlement_2: REAL
- entitlement_2_enum: STRING
- old_machine_id: STRING

For events that are generated by situations in the Logical Volumes attribute group, events are sent by using the ITM_KPX_LOGICAL_VOLUMES event class. This event class contains the following slots:

- node: STRING
- timestamp: STRING
- name: STRING
- state: STRING
- volume_group_name: STRING
- type: STRING
- mount_point: STRING
- size_mb: INTEGER
- size_mb_enum: STRING

For events that are generated by situations in the MPIO Attributes attribute group, events are sent by using the ITM_KPX_MPIO_ATTRIBUTES event class. This event class contains the following slots:

- node: STRING
- timestamp: STRING
- device_name: STRING
- attribute: STRING
- kpx_value: STRING
- description: STRING
- user_settable: STRING

For events that are generated by situations in the MPIO Status attribute group, events are sent by using the ITM_KPX_MPIO_STATUS event class. This event class contains the following slots:

- node: STRING
- timestamp: STRING
- device_name: STRING
- parent: STRING
- path_status: STRING
- kpx_status: STRING
- connection: STRING

For events that are generated by situations in the Network Adapters Rates attribute group, events are sent by using the ITM_KPX_NETWORK_ADAPTERS_RATES event class. This event class contains the following slots:

- node: STRING
- timestamp: STRING
- name: STRING
- parent: STRING
- type: STRING
- bytes_sent_per_sec: INTEGER
- bytes_sent_per_sec_enum: STRING
- pkts_sent_per_sec: INTEGER
- pkts_sent_per_sec_enum: STRING
- pkts_sent_errors_per_sec: INTEGER
- pkts_sent_errors_per_sec_enum: STRING
- sent_pkts_dropped_per_sec: INTEGER
- sent_pkts_dropped_per_sec_enum: STRING
- broadcast_pkts_sent_per_sec: INTEGER
- broadcast_pkts_sent_per_sec_enum: STRING
- multicast_pkts_sent_per_sec: INTEGER
- multicast_pkts_sent_per_sec_enum: STRING
- sent_interrupts_per_sec: INTEGER
- sent_interrupts_per_sec_enum: STRING
- bytes_rcvd_per_sec: INTEGER
- bytes_rcvd_per_sec_enum: STRING
- pkts_rcvd_per_sec: INTEGER
- pkts_rcvd_per_sec_enum: STRING
- pkts_rcv_errors_per_sec: INTEGER
- pkts_rcv_errors_per_sec_enum: STRING

- bad_pkts_rcvd_per_sec: INTEGER
- bad_pkts_rcvd_per_sec_enum: STRING
- rcv_pkts_dropped_per_sec: INTEGER
- rcv_pkts_dropped_per_sec_enum: STRING
- broadcast_pkts_rcvd_per_sec: INTEGER
- broadcast_pkts_rcvd_per_sec_enum: STRING
- multicast_pkts_rcvd_per_sec: INTEGER
- multicast_pkts_rcvd_per_sec_enum: STRING
- rcv_interrupts_per_sec: INTEGER
- rcv_interrupts_per_sec_enum: STRING
- transmitsq_per_sec: INTEGER
- transmitsq_per_sec_enum: STRING
- max_transmitsq_per_sec: INTEGER
- max_transmitsq_per_sec_enum: STRING
- qoverflow_per_sec: INTEGER
- qoverflow_per_sec_enum: STRING
- real_pkts_rcvd_per_sec: INTEGER
- real_pkts_rcvd_per_sec_enum: STRING
- real_pkts_bridged_per_sec: INTEGER
- real_pkts_bridged_per_sec_enum: STRING
- real_pkts_consumed_per_sec: INTEGER
- real_pkts_consumed_per_sec_enum: STRING
- real_pkts_fragmented_per_sec: INTEGER
- real_pkts_fragmented_per_sec_enum: STRING
- real_pkts_sent_per_sec: INTEGER
- real_pkts_sent_per_sec_enum: STRING
- real_pkts_dropped_per_sec: INTEGER
- real_pkts_dropped_per_sec_enum: STRING
- virtual_pkts_rcvd_per_sec: INTEGER
- virtual_pkts_rcvd_per_sec_enum: STRING
- virtual_pkts_bridged_per_sec: INTEGER
- virtual_pkts_bridged_per_sec_enum: STRING
- virtual_pkts_consumed_per_sec: INTEGER
- virtual_pkts_consumed_per_sec_enum: STRING
- virtual_pkts_fragmented_per_sec: INTEGER
- virtual_pkts_fragmented_per_sec_enum: STRING
- virtual_pkts_sent_per_sec: INTEGER
- virtual_pkts_sent_per_sec_enum: STRING
- virtual_pkts_dropped_per_sec: INTEGER
- virtual_pkts_dropped_per_sec_enum: STRING
- output_pkts_generated_per_sec: INTEGER
- output_pkts_generated_per_sec_enum: STRING
- output_pkts_dropped_per_sec: INTEGER
- output_pkts_dropped_per_sec_enum: STRING
- output_pkts_failures_per_sec: INTEGER

- output_pkts_failures_per_sec_enum: STRING
- mem_alloc_failures_per_sec: INTEGER
- mem_alloc_failures_per_sec_enum: STRING
- icmp_error_pkts_sent_per_sec: INTEGER
- icmp_error_pkts_sent_per_sec_enum: STRING
- non_ip_pkts_larger_than_mtu_per_sec: INTEGER
- non_ip_pkts_larger_than_mtu_per_sec_enum: STRING
- threadq_overflow_pkts_per_sec: INTEGER
- threadq_overflow_pkts_per_sec_enum: STRING
- ha_keep_alive_pkts_per_sec: INTEGER
- ha_keep_alive_pkts_per_sec_enum: STRING
- ha_recovery_pkts_per_sec: INTEGER
- ha_recovery_pkts_per_sec_enum: STRING
- ha_notify_pkts_per_sec: INTEGER
- ha_notify_pkts_per_sec_enum: STRING
- ha_limbo_pkts_per_sec: INTEGER
- ha_limbo_pkts_per_sec_enum: STRING
- ha_state: STRING
- ha_bridge_mode: STRING
- times_primary_per_sec: INTEGER
- times_primary_per_sec_enum: STRING
- time_backup_per_sec: INTEGER
- time_backup_per_sec_enum: STRING
- ha_mode: STRING
- priority: INTEGER
- priority_enum: STRING
- adapter_protocol: STRING
- media_speed_running: STRING
- bandwidth_util_pct: REAL
- bandwidth_util_pct_enum: STRING

For events that are generated by situations in the Network Adapters Totals attribute group, events are sent by using the ITM_KPX_NETWORK_ADAPTERS_TOTALS event class. This event class contains the following slots:

- node: STRING
- timestamp: STRING
- name: STRING
- parent: STRING
- type: STRING
- bytes_sent: STRING
- pkts_sent: STRING
- pkts_sent_error: STRING
- sent_pkts_dropped: STRING
- broadcast_pkts_sent: STRING
- multicast_pkts_sent: STRING
- sent_interrupts: STRING

- bytes_rcvd: STRING
- pkts_rcvd: STRING
- pkts_rcv_error: STRING
- bad_pkts_rcvd: STRING
- rcv_pkts_dropped: STRING
- broadcast_pkts_rcvd: STRING
- multicast_pkts_rcvd: STRING
- rcv_interrupts: STRING
- transmitsq: STRING
- max_transmitsq: STRING
- qoverflow: STRING
- real_pkts_rcvd: STRING
- real_pkts_bridged: STRING
- real_pkts_consumed: STRING
- real_pkts_fragmented: STRING
- real_pkts_sent: STRING
- real_pkts_dropped: STRING
- virtual_pkts_rcvd: STRING
- virtual_pkts_bridged: STRING
- virtual_pkts_consumed: STRING
- virtual_pkts_fragmented: STRING
- virtual_pkts_sent: STRING
- virtual_pkts_dropped: STRING
- output_pkts_generated: STRING
- output_pkts_dropped: STRING
- output_pkts_failures: STRING
- mem_alloc_failures: STRING
- icmp_error_pkts_sent: STRING
- non_ip_pkts_larger_than_mtu: STRING
- threadq_overflow_pkts: STRING
- ha_keep_alive_pkts: STRING
- ha_recovery_pkts: STRING
- ha_notify_pkts: STRING
- ha_limbo_pkts: STRING
- ha_state: STRING
- ha_bridge_mode: STRING
- times_primary: STRING
- times_backup: STRING
- ha_mode: STRING
- priority: STRING

For events that are generated by situations in the Network Interfaces attribute group, events are sent by using the ITM_KPX_NETWORK_INTERFACES event class. This event class contains the following slots:

- node: STRING
- timestamp: STRING

- name: STRING
- state: STRING
- ip_address: STRING
- mtu: STRING
- mask: STRING
- domain: STRING
- gateway: STRING
- nameserver: STRING

For events that are generated by situations in the NIM Resources attribute group, events are sent by using the ITM_KPX_NIM_RESOURCES event class. This event class contains the following slots:

- node: STRING
- timestamp: STRING
- name: STRING
- type: STRING
- kpx_class: STRING
- state: STRING
- server: STRING
- location: STRING
- information: STRING

For events that are generated by situations in the Paging Space attribute group, events are sent by using the ITM_KPX_PAGING_SPACE event class. This event class contains the following slots:

- node: STRING
- timestamp: STRING
- total_size_mb: INTEGER
- total_size_mb_enum: STRING
- free_mb: INTEGER
- free_mb_enum: STRING
- used_mb: INTEGER
- used_mb_enum: STRING
- free_pct: INTEGER
- free_pct_enum: STRING
- used_pct: INTEGER
- used_pct_enum: STRING
- pages_read_per_sec: INTEGER
- pages_read_per_sec_enum: STRING
- pages_written_per_sec: INTEGER
- pages_written_per_sec_enum: STRING

For events that are generated by situations in the Performance Object Status attribute group, events are sent by using the ITM_KPX_PERFORMANCE_OBJECT_STATUS event class. This event class contains the following slots:

- node: STRING
- timestamp: STRING
- query_name: STRING
- object_name: STRING

- object_type: INTEGER
- object_type_enum: STRING
- object_status: INTEGER
- object_status_enum: STRING
- error_code: INTEGER
- error_code_enum: STRING

For events that are generated by situations in the Physical Memory attribute group, events are sent by using the ITM_KPX_PHYSICAL_MEMORY event class. This event class contains the following slots:

- node: STRING
- timestamp: STRING
- memory_size_mb: INTEGER
- memory_size_mb_enum: STRING
- free_memory_mb: INTEGER
- free_memory_mb_enum: STRING
- used_memory_mb: INTEGER
- used_memory_mb_enum: STRING
- free_memory_pct: INTEGER
- free_memory_pct_enum: STRING
- used_memory_pct: INTEGER
- used_memory_pct_enum: STRING
- non_comp_memory: INTEGER
- non_comp_memory_enum: STRING
- comp_memory: INTEGER
- comp_memory_enum: STRING
- decay_rate: INTEGER
- decay_rate_enum: STRING
- repaging_rate: INTEGER
- repaging_rate_enum: STRING

For events that are generated by situations in the Physical Volumes attribute group, events are sent by using the ITM_KPX_PHYSICAL_VOLUMES event class. This event class contains the following slots:

- node: STRING
- timestamp: STRING
- name: STRING
- state: STRING
- volume_group_name: STRING
- number_of_logical_volumes: INTEGER
- number_of_logical_volumes_enum: STRING
- number_of_stale_partitions: INTEGER
- number_of_stale_partitions_enum: STRING
- size_mb: INTEGER
- size_mb_enum: STRING
- free_mb: INTEGER
- free_mb_enum: STRING
- used_mb: INTEGER

- used_mb_enum: STRING
- free_pct: INTEGER
- free_pct_enum: STRING
- used_pct: INTEGER
- used_pct_enum: STRING
- unique_id: STRING

For events that are generated by situations in the Print Queues attribute group, events are sent by using the ITM_KPX_PRINT_QUEUES event class. This event class contains the following slots:

- node: STRING
- timestamp: STRING
- name: STRING
- device: STRING
- state: STRING
- description: STRING

For events that are generated by situations in the Processes Detail attribute group, events are sent by using the ITM_KPX_PROCESSES_DETAIL event class. This event class contains the following slots:

- node: STRING
- timestamp: STRING
- process_name: STRING
- process_id: INTEGER
- process_id_enum: STRING
- parent_process_id: INTEGER
- parent_process_id_enum: STRING
- nice: INTEGER
- nice_enum: STRING
- user_name: STRING
- repage_count_per_sec: INTEGER
- repage_count_per_sec_enum: STRING
- io_page_fault_per_sec: INTEGER
- io_page_fault_per_sec_enum: STRING
- non_io_page_fault_per_sec: INTEGER
- non_io_page_fault_per_sec_enum: STRING
- text_size: INTEGER
- text_size_enum: STRING
- resident_text_size: INTEGER
- resident_text_size_enum: STRING
- resident_data_size: INTEGER
- resident_data_size_enum: STRING
- page_space_used: INTEGER
- page_space_used_enum: STRING
- signals_in_per_sec: INTEGER
- signals_in_per_sec_enum: STRING
- voluntary_context_switches_per_sec: INTEGER
- voluntary_context_switches_per_sec_enum: STRING

- process_group_id: INTEGER
- process_group_id_enum: STRING
- priority: INTEGER
- priority_enum: STRING
- state: INTEGER
- state_enum: STRING
- process_uid: INTEGER
- process_uid_enum: STRING
- thread_count: INTEGER
- thread_count_enum: STRING
- process_core_size: INTEGER
- process_core_size_enum: STRING
- involuntary_context_switches_per_sec: INTEGER
- involuntary_context_switches_per_sec_enum: STRING
- total_cpu_time: INTEGER
- total_cpu_time_enum: STRING
- cpu_pct: REAL
- cpu_pct_enum: STRING
- wpar_name: STRING
- wlm_name: STRING
- full_path: STRING

For events that are generated by situations in the Processes Summary attribute group, events are sent by using the ITM_KPX_PROCESSES_SUMMARY event class. This event class contains the following slots:

- node: STRING
- timestamp: STRING
- process_context_switches_per_sec: INTEGER
- process_context_switches_per_sec_enum: STRING
- run_queue_avg: INTEGER
- run_queue_avg_enum: STRING
- swap_queue_avg: INTEGER
- swap_queue_avg_enum: STRING
- kern_procs_created_per_sec: INTEGER
- kern_procs_created_per_sec_enum: STRING
- kern_procs_exit_per_sec: INTEGER
- kern_procs_exit_per_sec_enum: STRING
- load_avg: INTEGER
- load_avg_enum: STRING
- utilization_avg: INTEGER
- utilization_avg_enum: STRING
- total_num_processes: INTEGER
- total_num_processes_enum: STRING

For events that are generated by situations in the Quality Of Service attribute group, events are sent by using the ITM_KPX_QUALITY_OF_SERVICE event class. This event class contains the following slots:

- node: STRING

- timestamp: STRING
- policy_rule_priority: INTEGER
- policy_rule_priority_enum: STRING
- protocol: INTEGER
- protocol_enum: STRING
- source_ip_addr_start: STRING
- source_ip_addr_end: STRING
- dest_ip_addr_start: STRING
- dest_ip_addr_end: STRING
- source_port_start: INTEGER
- source_port_start_enum: STRING
- source_port_end: INTEGER
- source_port_end_enum: STRING
- dest_port_start: INTEGER
- dest_port_start_enum: STRING
- dest_port_end: INTEGER
- dest_port_end_enum: STRING
- service_class: INTEGER
- service_class_enum: STRING
- peak_rate: STRING
- average_rate: STRING
- bucket_depth: STRING
- guaranteed_rate: STRING
- slack_term: STRING
- tos_in: STRING
- tos_out: STRING
- max_packet_size: INTEGER
- max_packet_size_enum: STRING
- min_packet_size: INTEGER
- min_packet_size_enum: STRING
- num_connections: INTEGER
- num_connections_enum: STRING
- bytes_xmited: STRING
- packets_xmited: STRING
- in_profile_bytes_xmited: STRING
- in_profile_packets_xmited: STRING

For events that are generated by situations in the System Call attribute group, events are sent by using the ITM_KPX_SYSTEM_CALL event class. This event class contains the following slots:

- node: STRING
- timestamp: STRING
- num_syscalls_per_sec: INTEGER
- num_syscalls_per_sec_enum: STRING
- reads_per_sec: INTEGER
- reads_per_sec_enum: STRING

- writes_per_sec: INTEGER
- writes_per_sec_enum: STRING
- forks_per_sec: INTEGER
- forks_per_sec_enum: STRING
- execs_per_sec: INTEGER
- execs_per_sec_enum: STRING

For events that are generated by situations in the System IO attribute group, events are sent by using the ITM_KPX_SYSTEM_IO event class. This event class contains the following slots:

- node: STRING
- timestamp: STRING
- syscall_read_chars_per_sec: INTEGER
- syscall_read_chars_per_sec_enum: STRING
- syscall_write_chars_per_sec: INTEGER
- syscall_write_chars_per_sec_enum: STRING
- logical_blk_buffer_cache_reads_per_sec: INTEGER
- logical_blk_buffer_cache_reads_per_sec_enum: STRING
- logical_blk_buffer_cache_writes_per_sec: INTEGER
- logical_blk_buffer_cache_writes_per_sec_enum: STRING
- phys_blk_buffer_cache_reads_per_sec: INTEGER
- phys_blk_buffer_cache_reads_per_sec_enum: STRING
- phys_blk_buffer_cache_writes_per_sec: INTEGER
- phys_blk_buffer_cache_writes_per_sec_enum: STRING
- phys_raw_reads_per_sec: INTEGER
- phys_raw_reads_per_sec_enum: STRING
- phys_raw_writes_per_sec: INTEGER
- phys_raw_writes_per_sec_enum: STRING

For events that are generated by situations in the TADDM attribute group, events are sent by using the ITM_KPX_TADDM event class. This event class contains the following slots:

- node: STRING
- timestamp: STRING
- cec_mfg: STRING
- cec_model: STRING
- cec_sn: STRING
- lpar_num: INTEGER
- lpar_num_enum: STRING

For events that are generated by situations in the TCP attribute group, events are sent by using the ITM_KPX_TCP event class. This event class contains the following slots:

- node: STRING
- timestamp: STRING
- connections_initiated_per_sec: INTEGER
- connections_initiated_per_sec_enum: STRING
- connections_established_per_sec: INTEGER
- connections_established_per_sec_enum: STRING
- connections_closed_per_sec: INTEGER

- connections_closed_per_sec_enum: STRING
- total_packets_sent_per_sec: INTEGER
- total_packets_sent_per_sec_enum: STRING
- data_packets_sent_per_sec: INTEGER
- data_packets_sent_per_sec_enum: STRING
- data_sent_kb_per_sec: INTEGER
- data_sent_kb_per_sec_enum: STRING
- data_pkt_retransmitted_per_sec: INTEGER
- data_pkt_retransmitted_per_sec_enum: STRING
- ack_only_pkt_sent_per_sec: INTEGER
- ack_only_pkt_sent_per_sec_enum: STRING
- total_packets_received_per_sec: INTEGER
- total_packets_received_per_sec_enum: STRING
- ack_pkt_received_per_sec: INTEGER
- ack_pkt_received_per_sec_enum: STRING

For events that are generated by situations in the Top 50 CPU Processes attribute group, events are sent by using the ITM_KPX_TOP_50_CPU_PROCESSES event class. This event class contains the following slots:

- node: STRING
- timestamp: STRING
- name: STRING
- id: INTEGER
- id_enum: STRING
- cpu_pct: REAL
- cpu_pct_enum: STRING
- memory_kb: INTEGER
- memory_kb_enum: STRING
- owner: STRING
- full_path: STRING

For events that are generated by situations in the Top 50 Memory Processes attribute group, events are sent by using the ITM_KPX_TOP_50_MEMORY_PROCESSES event class. This event class contains the following slots:

- node: STRING
- timestamp: STRING
- name: STRING
- id: INTEGER
- id_enum: STRING
- cpu_pct: REAL
- cpu_pct_enum: STRING
- memory_kb: INTEGER
- memory_kb_enum: STRING
- owner: STRING
- full_path: STRING

For events that are generated by situations in the Virtual Memory Management attribute group, events are sent by using the ITM_KPX_VIRTUAL_MEMORY_MANAGEMENT event class. This event class contains the following slots:

- node: STRING
- timestamp: STRING
- pages_read_per_sec: INTEGER
- pages_read_per_sec_enum: STRING
- pages_written_per_sec: INTEGER
- pages_written_per_sec_enum: STRING
- paging_space_read_per_sec: INTEGER
- paging_space_read_per_sec_enum: STRING
- paging_space_written_per_sec: INTEGER
- paging_space_written_per_sec_enum: STRING
- zero_fill_per_sec: INTEGER
- zero_fill_per_sec_enum: STRING
- pagein_wait_per_sec: INTEGER
- pagein_wait_per_sec_enum: STRING
- page_fault_per_sec: INTEGER
- page_fault_per_sec_enum: STRING
- page_reclaim_per_sec: INTEGER
- page_reclaim_per_sec_enum: STRING
- steals_per_sec: INTEGER
- steals_per_sec_enum: STRING
- memory_not_pinned: INTEGER
- memory_not_pinned_enum: STRING
- comp_repage_pct: INTEGER
- comp_repage_pct_enum: STRING
- noncomp_repage_pct: INTEGER
- noncomp_repage_pct_enum: STRING
- pending_client_pageout: INTEGER
- pending_client_pageout_enum: STRING

For events that are generated by situations in the Volume Groups attribute group, events are sent by using the ITM_KPX_VOLUME_GROUPS event class. This event class contains the following slots:

- node: STRING
- timestamp: STRING
- name: STRING
- state: STRING
- number_of_logical_volumes: INTEGER
- number_of_logical_volumes_enum: STRING
- number_of_physical_volumes: INTEGER
- number_of_physical_volumes_enum: STRING
- number_of_active_physical_volumes: INTEGER
- number_of_active_physical_volumes_enum: STRING
- number_of_stale_physical_volumes: INTEGER
- number_of_stale_physical_volumes_enum: STRING

- size_mb: INTEGER
- size_mb_enum: STRING
- free_mb: INTEGER
- free_mb_enum: STRING
- used_mb: INTEGER
- used_mb_enum: STRING
- free_pct: INTEGER
- free_pct_enum: STRING
- used_pct: INTEGER
- used_pct_enum: STRING

For events that are generated by situations in the Workload Manager attribute group, events are sent by using the ITM_KPX_WORKLOAD_MANAGER event class. This event class contains the following slots:

- node: STRING
- timestamp: STRING
- class_name: STRING
- tier_num: INTEGER
- tier_num_enum: STRING
- cpu_consumed_pct: INTEGER
- cpu_consumed_pct_enum: STRING
- cpu_desired_pct: INTEGER
- cpu_desired_pct_enum: STRING
- cpu_total: INTEGER
- cpu_total_enum: STRING
- cpu_shares: INTEGER
- cpu_shares_enum: STRING
- cpu_min: INTEGER
- cpu_min_enum: STRING
- cpu_soft_max: INTEGER
- cpu_soft_max_enum: STRING
- cpu_hard_max: INTEGER
- cpu_hard_max_enum: STRING
- mem_consumed_pct: INTEGER
- mem_consumed_pct_enum: STRING
- mem_desired_pct: INTEGER
- mem_desired_pct_enum: STRING
- mem_total: INTEGER
- mem_total_enum: STRING
- mem_shares: INTEGER
- mem_shares_enum: STRING
- mem_min: INTEGER
- mem_min_enum: STRING
- mem_soft_max: INTEGER
- mem_soft_max_enum: STRING
- mem_hard_max: INTEGER

- mem_hard_max_enum: STRING
- disk_consumed_pct: INTEGER
- disk_consumed_pct_enum: STRING
- disk_desired_pct: INTEGER
- disk_desired_pct_enum: STRING
- disk_total: INTEGER
- disk_total_enum: STRING
- disk_shares: INTEGER
- disk_shares_enum: STRING
- disk_min: INTEGER
- disk_min_enum: STRING
- disk_soft_max: INTEGER
- disk_soft_max_enum: STRING
- disk_hard_max: INTEGER
- disk_hard_max_enum: STRING

For events that are generated by situations in the WPAR CPU attribute group, events are sent by using the ITM_KPX_WPAR_CPU event class. This event class contains the following slots:

- node: STRING
- timestamp: STRING
- wpar_name: STRING
- user_cpu_pct: INTEGER
- user_cpu_pct_enum: STRING
- system_cpu_pct: INTEGER
- system_cpu_pct_enum: STRING
- num_cpus_consumed: INTEGER
- num_cpus_consumed_enum: STRING
- wpar_cpu_consumed_pct: INTEGER
- wpar_cpu_consumed_pct_enum: STRING
- lpar_cpu_consumed_pct: INTEGER
- lpar_cpu_consumed_pct_enum: STRING
- cpu_consumption_limit: INTEGER
- cpu_consumption_limit_enum: STRING
- rc_cpu_limits_hard_max: INTEGER
- rc_cpu_limits_hard_max_enum: STRING
- lpar_entitlement: INTEGER
- lpar_entitlement_enum: STRING

For events that are generated by situations in the WPAR FileSystem attribute group, events are sent by using the ITM_KPX_WPAR_FILESYSTEM event class. This event class contains the following slots:

- node: STRING
- timestamp: STRING
- wpar_name: STRING
- mount_point: STRING
- device_name: STRING
- vfs_type: STRING

- node_name: STRING
- mount_options: STRING

For events that are generated by situations in the WPAR Information attribute group, events are sent by using the ITM_KPX_WPAR_INFORMATION event class. This event class contains the following slots:

- node: STRING
- timestamp: STRING
- wpar_name: STRING
- type: INTEGER
- type_enum: STRING
- state: INTEGER
- state_enum: STRING
- owner: STRING
- kpx_hostname: STRING
- home: STRING
- autostart: INTEGER
- autostart_enum: STRING
- shares_usr_dir: INTEGER
- shares_usr_dir_enum: STRING
- checkpointable: INTEGER
- checkpointable_enum: STRING
- wpar_application_path: STRING
- rc_is_active: INTEGER
- rc_is_active_enum: STRING
- rc_rset: STRING
- rc_cpu_shares: STRING
- rc_cpu_limits_min: STRING
- rc_cpu_limits_soft_max: STRING
- rc_cpu_limits_hard_max: STRING
- rc_memory_shares: STRING
- rc_memory_limits_min: STRING
- rc_memory_limits_soft_max: STRING
- rc_memory_limits_hard_max: STRING
- rc_per_process_vm_limit: STRING
- rc_max_processes: STRING
- rc_max_threads: STRING
- admin_operation: STRING
- admin_process_id: STRING
- admin_start_time: STRING
- ip_address: STRING

For events that are generated by situations in the WPAR Network attribute group, events are sent by using the ITM_KPX_WPAR_NETWORK event class. This event class contains the following slots:

- node: STRING
- timestamp: STRING
- wpar_name: STRING

- interface_name: STRING
- ip_address: STRING
- network_mask: STRING
- broadcast_ip: STRING

For events that are generated by situations in the WPAR Physical Memory attribute group, events are sent by using the ITM_KPX_WPAR_PHYSICAL_MEMORY event class. This event class contains the following slots:

- node: STRING
- timestamp: STRING
- wpar_name: STRING
- memory_size_mb: INTEGER
- memory_size_mb_enum: STRING
- used_memory_mb: INTEGER
- used_memory_mb_enum: STRING
- free_memory_mb: INTEGER
- free_memory_mb_enum: STRING
- free_memory_pct: INTEGER
- free_memory_pct_enum: STRING
- used_memory_pct: INTEGER
- used_memory_pct_enum: STRING
- lpar_memory_used_pct: INTEGER
- lpar_memory_used_pct_enum: STRING
- rc_memory_limits_hard_max: INTEGER
- rc_memory_limits_hard_max_enum: STRING
- lpar_memory_size_mb: INTEGER
- lpar_memory_size_mb_enum: STRING

Appendix B. Discovery Library Adapter for the AIX Premium agent

The Tivoli Management Services Discovery Library Adapter (DLA) discovers resources and relationships, and creates a Discovery Library Book file for the agent.

About the DLA

The Tivoli Management Services DLA discovers resources and relationships and creates a Discovery Library Book file. The discovery book follows the Discovery Library IDML schema and is used to populate the IBM Tivoli Change and Configuration Management Database and IBM Tivoli Business Service Manager products. The Tivoli Management Services DLA discovers the operating system, the IBM Tivoli Monitoring agent that is running on this LPAR, and the relationship of the agent with the CEC system that it virtualizes. For all AIX systems that are active and online at the Tivoli Enterprise Portal Server, information is included in the discovery book for those resources. The Tivoli Management Services DLA discovers active resources. It is run on demand and can be run periodically to discover resources that were not active during previous discoveries.

The DLA discovers AIX Premium agent components.

More information about DLAs

The following sources contain additional information about using the DLA program with all monitoring agents:

- The *IBM Tivoli Monitoring Administrator's Guide* contains information about using the Tivoli Management Services Discovery Library Adapter.
- For information about using a DLA with Tivoli Application Dependency Discovery Manager (TADDM), see the TADDM Information Center (http://publib.boulder.ibm.com/infocenter/tivihelp/v10r1/topic/com.ibm.taddm.doc_7.2/welcome_page/welcome.html).
- For information about using a DLA with the Tivoli Business Service Manager product, see the Tivoli Business Service Manager Information Center (http://publib.boulder.ibm.com/infocenter/tivihelp/v3r1/topic/com.ibm.tivoli.itbsm.doc/customization/bsms_dsc_discoverylibraryeventmapping.html).

Prerequisites

If you are using the DLA with Tivoli Business Service Manager and both the AIX Premium agent and AIX OS agent are running on the same system, you must have Tivoli Business Service Manager V4.2.1 Fix Pack 2 installed.

DLA data model class types represented in CDM

The source application data objects map to classes in the Common Data Model (CDM) for the AIX Premium agent.

The following information is provided for each class:

CDM class name

Class name for which the agent is providing information

Relationships

CDM relationships (hierarchical) between currently identified model objects

CDM attributes, agent attributes, descriptions, and examples

CDM and agent attributes that are required to create an instance of a resource, descriptions of the attributes, and examples of the attributes

DLA data model classes for the AIX Premium agent

Each agent that uses the Discovery Library Adapter has DLA data model classes that are defined for the agent.

The AIX Premium agent has the following Discovery Library Adapter data model classes:

- LPAR
- AIX
- TMSAgent

LPAR class

An LPAR is a logical partition of the physical hardware where an operating system instance can run.

CDM class name

sys.ComputerSystem

Relationships

This class has no relationships.

CDM attributes, agent attributes, descriptions, and examples

- CDM attribute: Name
Agent attribute: KPX14LOGIC.HOSTNAME
Description: The name for the computer system as it is commonly known in the data center. This attribute is used by internal mechanisms of IBM Tivoli Application Dependency Discovery Manager.
Example: p7e07
- CDM attribute: ManagedSystemName
Agent attribute: INODESTS.NODE
Description: The name of the IBM Tivoli Monitoring component that provides data for the management of the AIX Premium agent instance.
Example: p7e07:PX
- CDM attribute: Label
Agent attribute: KPX14LOGIC.HOSTNAME
Description: A system-generated, descriptive string that is used for displaying the instance.
Example: p7e07
- CDM attribute: SerialNumber
Agent attribute: KPX56TADDM.CEC_SN
Description: The serial number of the physical computer system, as it is provided by the manufacturer of the device.
Example: 100148P
- CDM attribute: Manufacturer
Agent attribute: KPX56TADDM.CEC_MFG
Description: The name of the manufacturer of the physical computer system.
Example: IBM
- CDM attribute: Model
Agent attribute: KPX56TADDM.CEC_MODEL
Description: The model number of the physical computer system, as it is provided by the manufacturer of the device.
Example: 9117-MMB
- CDM attribute: VMID

Agent attribute: KPX56TADDM.LPAR_NUM

Description: The unique identifier for a virtual machine. This attribute is the ID for the LPAR.

Example: 2

- CDM attribute: Virtual
Description: Set to true because this system is a virtual computer.
Example: true
- CDM attribute: IsVMIDanLPAR
Description: Set to true because this computer is a logical partition.
Example: true

AIX class

The AIX class represents the operating system that is installed in each LPAR.

CDM class name

sys.aix.Aix

Relationships

- runsOn
Source: KPX14LOGIC.HOSTNAME-AIX
Target: KPX14LOGIC.HOSTNAME-LPAR
Example: runsOn source="p7e07-AIX" target="p7e07-LPAR"
- installedOn
Source: KPX14LOGIC.HOSTNAME-AIX
Target: KPX14LOGIC.HOSTNAME-LPAR
Example: installedOn source="p7e07-AIX" target="p7e07-LPAR"

CDM attributes, agent attributes, descriptions, and examples

- CDM attribute: Name
Description: Formed by the host name of the IBM AIX operating system.
Example: AIX
- CDM attribute: OSName
Description: The operating system name.
Example: AIX
- CDM attribute: OSVersion
Agent attribute: KPX08CPUSU.SSV
Description: The operating system version.
Example: 6100-04-01-0944

TMSAgent class

The TMSAgent represents the Tivoli Monitoring Services Agent.

CDM class name

app.TMSAgent

Relationships

- monitors
Source: INODESTS.NODE-TMSAgent
Target: LP.HOSTNAME-LPAR
Example: monitors source="p7e07:PX-TMSAgent" target="p7e07-LPAR"

CDM attributes, agent attributes, descriptions, and examples

- CDM attribute: ManagedSystemName

Agent attribute: INODESTS.NODE

Description: The name of the IBM Tivoli Monitoring component that provides data for the management of the AIX Premium agent instance.

Example: p7e07:PX

- CDM attribute: ManagedObjectName
Agent attribute: p@INODESTS.NODE
Description: The name of the IBM Tivoli Monitoring component that provides data for the management of the AIX Premium agent instance.
Example: p@p7e07:PX
- CDM attribute: SoftwareVersion
Agent attribute: INODESTS.VERSION
Description: The version of the AIX Premium agent.
Example: 06.22.00
- CDM attribute: ProductCode
Agent attribute: INODESTS.PRODUCT
Description: The product code of the AIX agent.
Example: PX
- CDM attribute: Affinity
Agent attribute: INODESTS.AFFINITIES
Description: The affinity of the AIX Premium agent.
Example: 00000000000000000000000000000000200100000yw0a7
- CDM attribute: Label
Agent attribute: INODESTS.NODE-AIX Premium
Description: The label of the AIX Premium agent.
Example: p7e07:PX - AIX Premium

Appendix C. Integration with Tivoli Business Service Manager

The AIX Premium agent provides data to create, update the status of, and view IBM Tivoli Business Service Manager services.

The Tivoli Management Services Discovery Library Adapter (DLA) and Discovery Library Toolkit provides data for the Tivoli Business Service Manager service models. The Tivoli Integration Facility (EIF) probe updates the status of these services, and you use the Tivoli Enterprise Portal to view the data for the services. To implement the integration of the agent with Tivoli Business Service Manager, perform the integration tasks.

Components for integrating with Tivoli Business Service Manager

The data for integrating with Tivoli Business Service Manager is supplied through the following components: Tivoli Management Services Discovery Library Adapter (DLA) and Discovery Library Toolkit, Tivoli Integration Facility (EIF) probe, and Tivoli Enterprise Portal.

Tivoli Management Services Discovery Library Adapter (DLA) and Discovery Library Toolkit

By using data from the Tivoli Management Services Discovery Library Adapter, you can build Tivoli Business Service Manager service models that include resources monitored by the AIX Premium agent.

The DLA files can be imported directly into Tivoli Business Service Manager using the Discovery Library Toolkit or they can be loaded into IBM Tivoli Application Dependency Discovery Manager (TADDM) and then fed into Tivoli Business Service Manager using the Discovery Library Toolkit.

See the following sources for more information about the DLA and Discovery Library Toolkit:

- Resources and relationships that are discovered by the AIX Premium agent and included in Tivoli Management Services DLA files: Appendix B, “Discovery Library Adapter for the AIX Premium agent,” on page 271
- Using the Tivoli Management Services DLA: *IBM Tivoli Monitoring Administrator's Guide*
- Using the Discovery Library Toolkit: *Tivoli Business Service Manager Customization Guide*

Tivoli Integration Facility (EIF) probe

Situation events detected by the AIX Premium agent can update the status of services in Tivoli Business Service Manager.

The situation events are forwarded from IBM Tivoli Monitoring to the Netcool/OMNIBus Probe for the Tivoli Event Integration Facility. The EIF probe then forwards the events to the Netcool/OMNIBus ObjectServer. Tivoli Business Service Manager monitors the Netcool/OMNIBus ObjectServer for new events and updates the status of affected services.

See the following sources for more information about event integration:

- Installation (using an existing EIF probe and Netcool/OMNIBus ObjectServer installation or using Tivoli Business Service Manager to install these components): Netcool/OMNIBus Information Center or the *Tivoli Business Service Manager Installation Guide*.
- Setting up event integration between IBM Tivoli Monitoring, the EIF probe, and the Netcool/OMNIBus ObjectServer: *IBM Tivoli Monitoring Installation and Setup Guide*.

Tivoli Enterprise Portal

You can use the integration of the Tivoli Enterprise Portal with Tivoli Business Service Manager to view the services in the Tivoli Business Service Manager console.

For more detailed examination and analysis, you can easily link from the Tivoli Business Service Manager console to the Tivoli Enterprise Portal to view the data within the AIX Premium agent.

Tasks to integrate the agent with Tivoli Business Service Manager

To integrate the AIX Premium agent with Tivoli Business Service Manager, you must install and configure the required components. Then, you can view the data in the Tivoli Integrated Portal

To integrate the AIX Premium agent with Tivoli Business Service Manager and view the data, complete the following tasks:

- Install the Discovery Library Toolkit on the Tivoli Business Service Manager server.
- Configure the Tivoli Event Integration Facility (EIF) probe to enrich AIX Premium agent events.
- Create a service in the Tivoli Business Service Manager console that you want to monitor.
- Create a data source mapping for each data source that you want to access within the Tivoli Business Service Manager.
- Configure an additional IBM Tivoli Monitoring web service for each Tivoli Enterprise Portal Server.
- View data in the Tivoli Enterprise Portal for the services that you have created to monitor through Tivoli Business Service Manager.

Installing the Discovery Library Toolkit on the Tivoli Business Service Manager

You must install the Discovery Library Toolkit on the Tivoli Business Service Manager server.

The Discovery Library Toolkit imports data from the DLA files and TADDM, which includes information about the hardware and the applications that are discovered by the source.

See “Installing the Discovery Library Toolkit” in the *Tivoli Business Service Manager Installation Guide*.

Configuring the Tivoli Event Integration Facility (EIF) probe to enrich events

The Netcool/OMNIBus Probe for Tivoli Event Integration Facility (EIF) forwards the AIX Premium agent events that are received from IBM Tivoli Monitoring to the Netcool/OMNIBus ObjectServer. Tivoli Business Service Manager monitors the Netcool/OMNIBus ObjectServer for new events, and updates the status of affected services.

Install and configure the Netcool/OMNIBus ObjectServer and EIF probe and set up event integration between IBM Tivoli Monitoring and Netcool/OMNIBus. The probe rules files provided with IBM Tivoli Monitoring enrich AIX Premium agent events to identify the affected service.

Creating a service in Tivoli Business Service Manager

You must create a service in the Tivoli Business Service Manager console for each service that you want to monitor.

To create the services that you want to monitor in the Tivoli Business Service Manager console, see “Configuring services” in the *IBM Tivoli Business Service Manager Service Configuration Guide*.

Creating a data source mapping for each data source

You can create a data source mapping for each data source that you want to access within Tivoli Business Service Manager.

Also, you can create the data fetchers and use the data to create incoming status rules that are populated in your service templates.

For more information, see “Data sources” and “Data fetchers” in the *IBM Tivoli Business Service Manager Service Configuration Guide*.

Configuring additional IBM Tivoli Monitoring web services

You can configure additional IBM Tivoli Monitoring web services for each Tivoli Enterprise Portal Server.

To configure an additional IBM Tivoli Monitoring web service for each Tivoli Enterprise Portal server, see “Configure TBSM charts” in the *IBM Tivoli Business Service Manager Scenarios Guide*.

Viewing data in the Tivoli Enterprise Portal

From Tivoli Business Service Manager, you can open the Tivoli Enterprise Portal and view the AIX Premium agent.

You can also launch Tivoli Business Service Manager from the Tivoli Enterprise Portal.

For more information about launching applications, see “Launching to and from applications” in the *Tivoli Business Service Manager Customization Guide*.

Appendix D. Documentation library

Various publications are relevant to the use of the IBM Tivoli Monitoring: AIX Premium Agent.

For information about how to access and use the publications, see *Using the publications* (http://pic.dhe.ibm.com/infocenter/tivihelp/v61r1/topic/com.ibm.itm.doc_6.3/common/using_publications.htm).

To find publications from the previous version of a product, click **Previous versions** under the name of the product in the **Contents** pane.

IBM Tivoli Monitoring: AIX Premium Agent library

The documentation for this agent and other product components is in the IBM Tivoli Monitoring Information Center (http://pic.dhe.ibm.com/infocenter/tivihelp/v61r1/topic/com.ibm.itm.doc_6.3/welcome.htm).

One document is specific to the AIX Premium agent. The IBM Tivoli Monitoring: AIX Premium Agent User's Guide provides agent-specific information for configuring, using, and troubleshooting the AIX Premium agent.

Use the information in the user's guide for the agent with the *Tivoli Enterprise Portal User's Guide* to monitor AIX resources.

Prerequisite publications

To use the information in this publication effectively, you must have some prerequisite knowledge.

See the following publications to gain the required prerequisite knowledge:

- *IBM Tivoli Monitoring Administrator's Guide*
- *IBM Tivoli Monitoring Agent Builder User's Guide*
- *IBM Tivoli Monitoring Command Reference*
- *IBM Tivoli Monitoring Installation and Setup Guide*
- *IBM Tivoli Monitoring High Availability Guide for Distributed Systems*
- *IBM Tivoli Monitoring: Messages*
- *IBM Tivoli Monitoring Troubleshooting Guide*
- *IBM Tivoli Monitoring Universal Agent User's Guide*
- *IBM Tivoli Universal Agent API and Command Programming Reference Guide*
- *IBM Tivoli Monitoring: i5/OS™ Agent User's Guide*
- *IBM Tivoli Monitoring: Linux OS Agent User's Guide*
- *IBM Tivoli Monitoring: UNIX OS Agent User's Guide*
- *IBM Tivoli Monitoring: UNIX Logs OS Agent User's*
- *IBM Tivoli Monitoring: Windows OS Agent User's Guide*
- *Tivoli Enterprise Portal User's Guide*
- *IBM Tivoli Performance Analyzer User's Guide*
- *IBM Tivoli Warehouse Proxy Agent User's Guide*
- *IBM Tivoli Warehouse Summarization and Pruning Agent User's Guide*

Related publications

The publications in related information centers provide useful information.

See the following information centers, which you can find by accessing Tivoli Documentation Central (<http://www.ibm.com/tivoli/documentation>):

- Tivoli Monitoring
- Tivoli Application Dependency Discovery Manager
- Tivoli Business Service Manager
- Tivoli Common Reporting
- Tivoli Enterprise Console

Other sources of documentation

You can obtain additional technical documentation about monitoring products from other sources.

See the following sources of technical documentation about monitoring products:

- Service Management Connect (SMC)

For introductory information about SMC, see IBM Service Management Connect (<http://www.ibm.com/developerworks/servicemanagement/>).

For information about Tivoli products, see the Application Performance Management community on SMC (<http://www.ibm.com/developerworks/servicemanagement/apm/index.html>).

Connect, learn, and share with Service Management professionals. Get access to developers and product support technical experts who provide their perspectives and expertise. You can use SMC for these purposes:

- Become involved with transparent development, an ongoing, open engagement between external users and developers of Tivoli products where you can access early designs, sprint demos, product roadmaps, and pre-release code.
- Connect one-on-one with the experts to collaborate and network about Tivoli and Integrated Service Management.
- Benefit from the expertise and experience of others using blogs.
- Collaborate with the broader user community using wikis and forums.
- IBM Integrated Service Management Library (<http://www.ibm.com/software/brandcatalog/ismlibrary/>) is an online catalog that contains integration documentation as well as other downloadable product extensions.
- IBM Redbook publications (<http://www.redbooks.ibm.com/>) include Redbooks® publications, Redpapers, and Redbooks technotes that provide information about products from platform and solution perspectives.
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Index

A

- Account Locked attribute 55
- Ack Only Pkt Sent per Sec attribute 148
- Ack Pkt Received per Sec attribute 149
- Active Disk Pct attribute 58
- Active Memory Expansion attribute group 24
- Active Memory Expansion workspace 13
- Active Users attribute group 33
- activities 217
- Actual Average Physical CPU Idle Mode attribute 52
- Actual Average Physical CPU System Mode attribute 52
- Actual Average Physical CPU User Mode attribute 52
- Actual Average Physical CPU Wait Mode attribute 53
- Adapter Protocol attribute 102
- additional information
 - attributes 21
 - situations 181
 - Take Action commands 215
 - Workspaces 11
- Admin Operation attribute 174
- Admin Process ID attribute 174
- Admin Start Time attribute 174
- agent
 - functions 1
 - problems and workarounds 232
- AIX Premium
 - situations 184
 - workspaces
 - descriptions 12
- AIX Premium agent
 - performance considerations 238
- AIX Premium Agent 8
- AME Mode attribute 25
- AMS Mem Loaned attribute 37
- AMS Memory Ent InUse attribute 37
- AMS Memory Entitlement attribute 37
- AMS Mode attribute 35
- AMS Physical Mem attribute 36
- AMS Pool attribute group 35
- AMS Pool ID attribute 36
- AMS Pool Size attribute 36
- Attribute attribute 87
- attribute group 24
- attribute groups
 - Active Memory Expansion 24
 - Active Users 33
 - AMS Pool 35
 - CPU Detail 38
 - CPU Summary 47
 - Defined Users 54
 - Devices 56
 - Disks 57
 - File Systems 64
 - Internet Protocol Detail 67
 - Internet Protocol Summary 70
 - list of all 21
 - Logical Partition 72
 - Logical Volumes 85
 - MPIO Attributes 86
 - MPIO Status 87
 - Network Adapters Rates 89
 - attribute groups (*continued*)
 - Network Adapters Totals 103
 - Network Interfaces 110
 - NIM Resources 112
 - overview 21
 - Paging Space 114
 - Performance Object Status 116
 - Physical Memory 119
 - Physical Volumes 122
 - Print Queues 125
 - Processes Detail 126
 - Processes Summary 132
 - Quality Of Service 135
 - System Call 140
 - System IO 142
 - TADDM 145
 - TCP 146
 - Top 50 CPU Processes 149
 - Top 50 Memory Processes 151
 - Virtual Memory Management 152
 - Volume Groups 156
 - Workload Manager 159
 - WPAR CPU 166
 - WPAR FileSystem 169
 - WPAR Information 170
 - WPAR Network 175
 - WPAR Physical Memory 176
- attributes 24
 - Account Locked 55
 - Ack Only Pkt Sent per Sec 148
 - Ack Pkt Received per Sec 149
 - Active Disk Pct 58
 - Active Memory Expansion 25
 - Active Users 33
 - Actual Average Physical CPU Idle Mode 52
 - Actual Average Physical CPU System Mode 52
 - Actual Average Physical CPU User Mode 52
 - Actual Average Physical CPU Wait Mode 53
 - Adapter Protocol 102
 - additional information 21
 - Admin Operation 174
 - Admin Process ID 174
 - Admin Start Time 174
 - AME Mode 25
 - AMS Mem Loaned 37
 - AMS Memory Ent InUse 37
 - AMS Memory Entitlement 37
 - AMS Mode 35
 - AMS Physical Mem 36
 - AMS Pool 35
 - AMS Pool ID 36
 - AMS Pool Size 36
 - Attribute 87
 - Autostart 171
 - Available CPU Units in Pool 82
 - Available CPUs in Pool 76
 - Average Operating Frequency GHz 51
 - Average Operating Frequency Pct 52
 - Average Rate 138
 - Avg Read Transfer MS 60
 - Avg Request In WaitQ MS 63

attributes (*continued*)

Avg ServiceQ Size 64
 Avg WaitQ Size 64
 Avg Write Transfer MS 61
 Bad Pkts Recvd 105
 Bad Pkts Recvd per Sec 92
 Bandwidth Util Pct 102
 Blocks Read 45
 Blocks Write 45
 Broadcast IP 176
 Broadcast Pkts Recvd 105
 Broadcast Pkts Recvd per Sec 93
 Broadcast Pkts Sent 104
 Broadcast Pkts Sent per Sec 90
 Bucket Depth 138
 Busy Pct 76
 Bytes Recvd 104
 Bytes Recvd per Sec 91
 Bytes Sent 103
 Bytes Sent per Sec 89
 Bytes Xmitted 140
 Capacity Weight 80
 Capped Mode 75
 CEC Mfg 145
 CEC Model 145
 CEC SN 145
 Checkpointable 172
 Class 57, 113
 Class Name 160
 Comp Memory 121
 Comp Repage Pct 155
 Compressed Data Size MB 28
 Compressed Memory Free MB 29
 Compressed Memory Free Pct 29
 Compressed Memory In Use MB 28
 Compressed Memory In use Pct 28
 Compressed Memory Page Ins 30
 Compressed Memory Page Outs 30
 Compressed Memory Pct 29
 Compressed Memory Size MB 27
 Compressed Number Of Working Pages 30
 Compression Ratio 30
 Connection 88
 Connections Closed per Sec 147
 Connections Established per Sec 147
 Connections Initiated per Sec 146
 Context Switches per Sec 40
 CPU Capacity Increment 79
 CPU Consumed Pct 160
 CPU Consumption Limit 168
 CPU Desired Pct 160
 CPU Detail 38
 CPU Entitlement 80
 CPU Hard Max 162
 CPU min 161
 CPU Number 38
 CPU Pct 132, 150, 151
 CPU Pool ID 83
 CPU shares 161
 CPU Soft Max 161
 CPU Summary 47
 CPU total 161
 CPU Used Pct 32
 Current Memory Expansion Factor 26
 Current Process 35
 Data Packets Sent per Sec 147
 Data Pkt Retransmitted per Sec 148

attributes (*continued*)

Data Sent KB per Sec 148
 Decay Rate 121
 Deficit Expansion Factor 33
 Deficit Memory MB 33
 Defined Users 54
 Description 87, 126
 Dest IP Addr end 136
 Dest IP Addr start 136
 Dest Port end 137
 Dest Port start 137
 Device 125
 Device Name 87, 88, 169
 Devices 56
 Dir Blk Scans per Sec 42
 Disk Consumed Pct 164
 Disk Desired Pct 164
 Disk Hard Max 165
 Disk min 165
 Disk shares 165
 Disk Soft Max 165
 Disk total 164
 Disks 57
 Domain 111
 Donated Busy Cycles Pct 50
 Donated Idle Cycles Pct 49
 Donating LPARs 51
 Donation Enablement 49
 Effective Memory Size MB 26
 Entitlement 73, 84
 Entitlement Pct 81
 Entitlement Used Pct 74
 Error Code 118
 Execs per Sec 41, 142
 Expires 55
 Failed Read per Sec 61
 Failed Writes per Sec 62
 File Systems 65
 Forks per Sec 41, 141
 Frag Output Packets per Sec 72
 Frag Received per Sec 70
 Free MB 66, 114, 123, 158
 Free Memory MB 120, 177
 Free Memory Pct 120, 177
 Free Pct 66, 115, 124, 159
 Full Path 132, 150, 152
 Gateway 112
 Guaranteed Rate 138
 HA Bridge Mode 101, 109
 HA Keep Alive Pkts 109
 HA Keep Alive Pkts per Sec 100
 HA Limbo Pkts 109
 HA Limbo Pkts per Sec 101
 HA Mode 102, 110
 HA Notify Pkts 109
 HA Notify Pkts per Sec 100
 HA Recovery Pkts 109
 HA Recovery Pkts per Sec 100
 HA State 101, 109
 Home 171
 Hostname 34, 82, 171
 Hypervisor Calls 50
 Hypervisor Page Ins 37
 Hypervisor Page Ins Time 38
 ICMP Error Pkts Sent 108
 ICMP Error Pkts Sent per Sec 99
 ID 149, 151

attributes (continued)

Idle CPU Pct 39, 48, 73
 Idle Time 34
 In Profile Bytes Xmitted 140
 In Profile Packets Xmitted 140
 Information 113
 Inode Lookup per Sec 42
 Input Errors per Sec 68
 Input Packets Dropped per Sec 68
 Interface Name 175
 Internet Protocol Detail 67
 Internet Protocol Summary 70
 Interrupts 43
 Involuntary Context Switches 43
 Involuntary Context Switches Per Sec 131
 IO Page Fault per Sec 128
 IO Wait CPU Pct 39, 48, 73
 Ioctet Received KB per Sec 67
 Ioctet Transmitted KB per Sec 69
 IP Address 111, 174, 175
 JCPU 35
 Kern Procs Created per Sec 134
 Kern Procs Exit per Sec 134
 Last Machine ID 83
 Load Avg 134
 Location 113
 Logical Blk Buffer Cache Reads per Sec 143
 Logical Blk Buffer Cache Writes per Sec 143
 Logical Context Switches 46
 Logical Partition 72
 Logical Processor Affinity 44
 Logical Read Requests 45
 Logical Volumes 85
 Logical Write Requests 45
 Login Date Time 34
 Loginretries 55
 LPAR CPU Consumed Pct 167
 LPAR Entitlement 168
 LPAR Memory Size MB 178
 LPAR Memory Used Pct 178
 LPAR Num 146
 LPAR Number 74
 Machine ID 82
 Major Page Faults 43
 Mask 111
 Max Compressed Memory Size MB 27
 Max CPU Cap Used Pct 83
 Max CPU Capacity 78
 Max Dispatch Latency 79
 Max Memory 77
 Max Packet Size 139
 Max Phys CPUs 77
 Max Read Service MS 60
 Max Request In WaitQ MS 63
 Max TransmitsQ 106
 Max TransmitsQ per Sec 94
 Max Virt CPUs 78
 Max Write Service MS 62
 Maximum Pool Capacity 84
 Media Speed Running 102
 Mem Alloc Failures 108
 Mem Alloc Failures per Sec 99
 Mem Consumed Pct 162
 Mem Desired Pct 162
 Mem Hard Max 164
 Mem min 163
 Mem shares 163

attributes (continued)

Mem Soft Max 163
 Mem total 162
 Memory KB 150, 152
 Memory Not Pinned 155
 Memory Size MB 119, 176
 Message Ops 44
 Min CPU Capacity 78
 Min Memory 77
 Min Packet Size 139
 Min Read Service MS 60
 Min Req Virt CPU 80
 Min Request In WaitQ MS 63
 Min Virt CPUs 78
 Min Write Service MS 62
 Minimum Uncompressed Memory Size MB 27
 Minor Page Faults 43
 Mount Options 170
 Mount Point 65, 86, 169
 MPIO Attributes 86
 MPIO Status 87
 MTU 111
 Multicast Pkt Received per Sec 68
 Multicast Pkt Transmitted per Sec 69
 Multicast Pkts Recvd 105
 Multicast Pkts Recvd per Sec 93
 Multicast Pkts Sent 104
 Multicast Pkts Sent per Sec 91
 Name 56, 57, 65, 67, 85, 89, 103, 111, 112, 122, 125, 149, 151, 157
 Nameserver 112
 Network Adapters Rates 89
 Network Adapters Totals 103
 Network Interfaces 110
 Network Mask 175
 Nice 127
 NIM Resources 112
 Node 25, 33, 35, 38, 47, 54, 56, 57, 65, 67, 70, 72, 85, 86, 88, 89, 103, 110, 112, 114, 116, 119, 122, 125, 126, 133, 135, 140, 142, 145, 146, 149, 151, 152, 156, 159, 166, 169, 170, 175, 176
 Node Name 169
 Non Comp Memory 121
 Non IO Page Fault per Sec 128
 Non IP Pkts Larger Than MTU 108
 Non IP Pkts Larger Than MTU per Sec 99
 Noncomp Repage Pct 156
 Normalized Average Physical CPU Idle Mode 54
 Normalized Average Physical CPU System Mode 53
 Normalized Average Physical CPU User Mode 53
 Normalized Average Physical CPU Wait Mode 54
 Num Connections 139
 Num CPUs Consumed 167
 Num Hypervisor Calls per Sec 81
 Num Syscalls per Sec 141
 Number of Active Physical Volumes 157
 Number of CPUs 47
 Number of Logical CPUs 75
 Number of Logical Volumes 123, 157
 Number of Physical CPUs 75
 Number of Physical CPUs in Shared Pool 76
 Number of Physical Volumes 157
 Number of Stale Partitions 123
 Number of Stale Physical Volumes 158
 Number of Virtual CPUs 75
 Object Name 117
 Object Status 117

attributes (*continued*)

Object Type 117
 Old Machine ID 85
 Online Mem 79
 Output Errors per Sec 69
 Output Pkts Dropped 108
 Output Pkts Dropped per Sec 98
 Output Pkts Failures 108
 Output Pkts Failures per Sec 98
 Output Pkts Generated 108
 Output Pkts Generated per Sec 98
 overview 21
 Owner 150, 152, 171
 Packets Forwarded per Sec 71
 Packets Received per Sec 67, 70
 Packets Transmitted per Sec 68
 Packets Xmitted 140
 Page Fault per Sec 154
 Page Reclaim per Sec 154
 Page Space Used 129
 Pagein Wait per Sec 154
 Pages Read per Sec 115, 153
 Pages Written per Sec 116, 153
 Paging Space 114
 Paging Space Read per Sec 153
 Paging Space Written per Sec 153
 Parent 56, 57, 88, 89, 103
 Parent Process ID 127
 Path Name Lookup per Sec 42
 Path Status 88
 PCPU 35
 Peak Rate 138
 Pending Client Pageout 156
 Performance Object Status 116
 Phantom Interrupts 81
 Phys Blk Buffer Cache Reads per Sec 144
 Phys Blk Buffer Cache Writes per Sec 144
 Phys Busy Pct 76
 Phys Raw Reads per Sec 144
 Phys Raw Writes per Sec 144
 Physical Consumption 46, 49
 Physical CPU Size of Shared Pool 83
 Physical CPU Units Used 82
 Physical Memory 119
 Physical Reads 46
 Physical Volumes 122
 Physical Writes 46
 Pkts Recv Error 105
 Pkts Recv Errors per Sec 92
 Pkts Recvd 105
 Pkts Recvd per Sec 91
 Pkts Sent 104
 Pkts Sent Error 104
 Pkts Sent Errors per Sec 90
 Pkts Sent per Sec 90
 Policy Rule Priority 135
 Pool Entitlement 84
 Print Queues 125
 Priority 102, 110, 130
 Process Context Switches per Sec 133
 Process Core Size 131
 Process Group ID 130
 Process ID 126
 Process Name 126
 Process UID 130
 Processes Detail 126
 Processes Summary 133

attributes (*continued*)

Protocol 136
 Qoverflow 106
 Qoverflow per Sec 94
 Quality Of Service 135
 Query Name 116
 RC CPU Limits Hard Max 168, 173
 RC CPU Limits Min 173
 RC CPU Limits Soft Max 173
 RC CPU Shares 172
 RC Is Active 172
 RC Max Processes 174
 RC Max Threads 174
 RC Memory Limits Hard Max 173, 178
 RC Memory Limits Min 173
 RC Memory Limits Soft Max 173
 RC Memory Shares 173
 RC per Process VM Limit 174
 RC RSet 172
 Read Char per Sec 41
 Read KB per Sec 59
 Read Timeouts per Sec 60
 Read Transfers per Sec 59
 Reads per Sec 40, 141
 Real Pkts Bridged 106
 Real Pkts Bridged per Sec 94
 Real Pkts Consumed 106
 Real Pkts Consumed per Sec 95
 Real Pkts Dropped 107
 Real Pkts Dropped per Sec 96
 Real Pkts Fragmented 106
 Real Pkts Fragmented per Sec 95
 Real Pkts Recvd 106
 Real Pkts Recvd per Sec 94
 Real Pkts Sent 106
 Real Pkts Sent per Sec 95
 Received Datagrams per Sec 71
 Recv Interrupts 105
 Recv Interrupts per Sec 93
 Recv Pkts Dropped 105
 Recv Pkts Dropped per Sec 92
 Repage Count per Sec 127
 Repaging Rate 122
 Resident Data Size 129
 Resident Text Size 128
 Roles 55
 Run Queue 44
 Run Queue Avg 133
 Semaphore Ops 44
 Sent Interrupts 104
 Sent Interrupts per Sec 91
 Sent Pkts Dropped 104
 Sent Pkts Dropped per Sec 90
 Server 113
 Service Class 138
 ServiceQ Full per Sec 64
 Shared Mode 74
 Shares usr Dir 171
 Signals In per Sec 129
 Size MB 65, 86, 123, 158
 Slack Term 139
 SMT Mode 75
 SMT Threads 84
 Source IP Addr end 136
 Source IP Addr start 136
 Source Port end 137
 Source Port start 137

attributes (*continued*)

State 56, 85, 111, 113, 122, 125, 130, 157, 171
Status 88
Steals per Sec 155
Stolen Busy Cycles Pct 50
Stolen Idle Cycles Pct 50
Swap Queue Avg 133
Syscall Read Chars per Sec 142
Syscall Write Chars per Sec 143
Syscalls per Sec 40
System Call 140
System CPU Pct 39, 48, 73, 167
System IO 142
System Software Version 47
TADDMM 145
Target Compressed Memory Size MB 26
Target Memory Expansion Factor 26
TCP 146
Text Size 128
Thread Count 131
ThreadQ Overflow Pkts 109
ThreadQ Overflow Pkts per Sec 99
Tier Num 160
Time Backup per Sec 101
Time In Hypervisor Pct 81
Time Spent in Hypervisor Pct 51
Times Backup 110
Times Primary 110
Times Primary per Sec 101
Timestamp 25, 34, 35, 38, 47, 54, 56, 57, 65, 67, 70, 72, 85,
87, 88, 89, 103, 110, 112, 114, 116, 119, 122, 125, 126, 133,
135, 141, 142, 145, 146, 149, 151, 152, 156, 159, 166, 169,
170, 175, 176
Top 50 CPU Processes 149
Top 50 Memory Processes 151
TOS In 139
TOS Out 139
Total CPU Time 132
Total Num Processes 135
Total Packets Reassembled per Sec 71
Total Packets Received per Sec 148
Total Packets Sent per Sec 147
Total Size MB 114
Total Used Pct 74
Transfers Bytes per Sec 58
Transfers KB per Sec 58
Transfers per Sec 58
TransmitsQ 105
TransmitsQ per Sec 93
Transmitted Datagrams per Sec 71
True Memory Size MB 25
tty 34
Type 56, 57, 86, 89, 103, 113, 170
Unallocated CPU In Pool 79
Uncompressed Data Size MB 28
Uncompressed Memory Free Pct 32
Uncompressed Memory In Use MB 31
Uncompressed Memory In Use Pct 31
Uncompressed Memory Size MB 31
Uncompressed Number of Working Pages 32
Uncompressed True Memory In Use Pct 32
Unique ID 125
Uptime 82
Used MB 66, 115, 124, 158
Used Memory MB 120, 177
Used Memory Pct 121, 177
Used Pct 66, 115, 124, 159

attributes (*continued*)

User CPU Pct 39, 48, 72, 166
User Name 34, 55, 127
User Settable 87
Utilization Avg 134
Value 87
VFS Type 169
Virt Context CPU Switches per Sec 77
Virtual Memory Management 152
Virtual Pkts Bridged 107
Virtual Pkts Bridged per Sec 96
Virtual Pkts Consumed 107
Virtual Pkts Consumed per Sec 96
Virtual Pkts Dropped 107
Virtual Pkts Dropped per Sec 97
Virtual Pkts Fragmented 107
Virtual Pkts Fragmented per Sec 97
Virtual Pkts Recvd 107
Virtual Pkts Recvd per Sec 96
Virtual Pkts Sent 107
Virtual Pkts Sent per Sec 97
Volume Group Name 65, 86, 123
Volume Groups 156
Voluntary Context Switches per Sec 129
WLM Name 132
Workload Manager 159
WPAR Application Path 172
WPAR CPU 166
WPAR CPU Consumed Pct 167
WPAR FileSystem 169
WPAR Information 170
WPAR Name 132, 166, 169, 170, 175, 176
WPAR Network 175
WPAR Physical Memory 176
Write Char per Sec 42
Write Timeout per Sec 62
Write Transfers per Sec 61
Writes per Sec 40, 141
Written KB per Sec 59
Zero Fill per Sec 154
Autostart attribute 171
Available CPU Units in Pool attribute 82
Available CPUs in Pool attribute 76
Average Operating Frequency GHz attribute 51
Average Operating Frequency Pct attribute 52
Average Rate attribute 138
Avg Read Transfer MS attribute 60
Avg Request In WaitQ MS attribute 63
Avg ServiceQ Size attribute 64
Avg WaitQ Size attribute 64
Avg Write Transfer MS attribute 61

B

Bad Pkts Recvd attribute 105
Bad Pkts Recvd per Sec attribute 92
Bandwidth Util Pct attribute 102
Blocks Read attribute 45
Blocks Write attribute 45
Broadcast IP attribute 176
Broadcast Pkts Recvd attribute 105
Broadcast Pkts Recvd per Sec attribute 93
Broadcast Pkts Sent attribute 104
Broadcast Pkts Sent per Sec attribute 90
Bucket Depth attribute 138
Busy Pct attribute 76
Bytes Recvd attribute 104

Bytes Recvd per Sec attribute 91
Bytes Sent attribute 103
Bytes Sent per Sec attribute 89
Bytes Xmitted attribute 140

C

calculate historical data disk space 179
capacity planning for historical data 179
Capacity Weight attribute 80
Capped Mode attribute 75
CEC Mfg attribute 145
CEC Model attribute 145
CEC SN attribute 145
Checkpointable attribute 172
Class attribute 57, 113
Class Name attribute 160
commands
 tacmd addSystem 9
 Take Action 215
Comp Memory attribute 121
Comp Repage Pct attribute 155
components 3
 IBM Tivoli Monitoring 3
Compressed Data Size MB attribute 28
Compressed Memory Free MB attribute 29
Compressed Memory Free Pct attribute 29
Compressed Memory In Use MB attribute 28
Compressed Memory In use Pct attribute 28
Compressed Memory Page Ins attribute 30
Compressed Memory Page Outs attribute 30
Compressed Memory Pct attribute 29
Compressed Memory Size MB attribute 27
Compressed Number Of Working Pages attribute 30
Compression Ratio attribute 30
configuration 8
 problems and workarounds 230
 remote 9
Connection attribute 88
Connections Closed per Sec attribute 147
Connections Established per Sec attribute 147
Connections Initiated per Sec attribute 146
Context Switches per Sec attribute 40
CPU Capacity Increment attribute 79
CPU Consumed Pct attribute 160
CPU Consumption Limit attribute 168
CPU Desired Pct attribute 160
CPU Detail attribute group 38
CPU Entitlement attribute 80
CPU Hard Max attribute 162
CPU Information workspace 16
CPU min attribute 161
CPU Number attribute 38
CPU Pct attribute 132, 150, 151
CPU Pool ID attribute 83
CPU shares attribute 161
CPU Soft Max attribute 161
CPU Summary attribute group 47
CPU total attribute 161
CPU Used Pct attribute 32
CPU Utilization workspace 16
Current Memory Expansion Factor attribute 26
Current Process attribute 35

D

Data Packets Sent per Sec attribute 147
Data Pkt Retransmitted per Sec attribute 148
Data Sent KB per Sec attribute 148
data sources 5
Decay Rate attribute 121
Deficit Expansion Factor attribute 33
Deficit Memory MB attribute 33
Defined Users attribute group 54
Description attribute 87, 126
descriptions 183
Dest IP Addr end attribute 136
Dest IP Addr start attribute 136
Dest Port end attribute 137
Dest Port start attribute 137
detailed 224
developerWorks website 280
Device attribute 125
Device Name attribute 87, 88, 169
Devices attribute group 56
Dir Blk Scans per Sec attribute 42
Discovery Library Adapter 275
 See DLA
Discovery Library Toolkit 275
 installing 276
disk capacity planning for historical data 179
Disk Consumed Pct attribute 164
Disk Desired Pct attribute 164
Disk Hard Max attribute 165
Disk min attribute 165
Disk shares attribute 165
Disk Soft Max attribute 165
disk space 5
Disk total attribute 164
Disks attribute group 57
DLA 271, 275
 data model 271
 classes 272
documentation
 See publications
Domain attribute 111
Donated Busy Cycles Pct attribute 50
Donated Idle Cycles Pct attribute 49
Donating LPARs attribute 51
Donation Enablement attribute 49

E

Effective Memory Size MB attribute 26
Entitlement attribute 73, 84
Entitlement Pct attribute 81
Entitlement Used Pct attribute 74
Error Code attribute 118
event
 mapping 243
Execs per Sec attribute 41, 142
Expires attribute 55

F

Failed Read per Sec attribute 61
Failed Writes per Sec attribute 62
File Systems attribute group 64
File Systems workspace 15
Forks per Sec attribute 41, 141
Frag Output Packets per Sec attribute 72

Frag Received per Sec attribute 70
Free MB attribute 66, 114, 123, 158
Free Memory MB attribute 120, 177
Free Memory Pct attribute 120, 177
Free Pct attribute 66, 115, 124, 159
Full Path attribute 132, 150, 152

G

Gateway attribute 112
Guaranteed Rate attribute 138

H

HA Bridge Mode attribute 101, 109
HA Keep Alive Pkts attribute 109
HA Keep Alive Pkts per Sec attribute 100
HA Limbo Pkts attribute 109
HA Limbo Pkts per Sec attribute 101
HA Mode attribute 102, 110
HA Notify Pkts attribute 109
HA Notify Pkts per Sec attribute 100
HA Recovery Pkts attribute 109
HA Recovery Pkts per Sec attribute 100
HA State attribute 101, 109
historical data
 calculate disk space 179
 disk capacity planning 179
Home attribute 171
Hostname attribute 34, 82, 171
Hypervisor Calls attribute 50
Hypervisor Page Ins attribute 37
Hypervisor Page Ins Time attribute 38

I

IBM Tivoli Monitoring 3
 overview 1
IBM Tivoli Monitoring version 5
ICMP Error Pkts Sent attribute 108
ICMP Error Pkts Sent per Sec attribute 99
ID attribute 149, 151
Idle CPU Pct attribute 39, 48, 73
Idle Time attribute 34
In Profile Bytes Xmitted attribute 140
In Profile Packets Xmitted attribute 140
include file 276
Information attribute 113
Inode Lookup per Sec attribute 42
Input Errors per Sec attribute 68
Input Packets Dropped per Sec attribute 68
installation 8
 problems and workarounds 230
 remote 9
installing language packs 5
Integrated Service Management Library documentation 280
interface
 user 4
Interface Name attribute 175
Internet Protocol Detail attribute group 67
Internet Protocol Summary attribute group 70
Interrupts attribute 43
Involuntary Context Switches attribute 43
Involuntary Context Switches Per Sec attribute 131
IO Page Fault per Sec attribute 128
IO Wait CPU Pct attribute 39, 48, 73

Ioctet Received KB per Sec attribute 67
Ioctet Transmitted KB per Sec attribute 69
IP Address attribute 111, 174, 175

J

JCPU attribute 35

K

Kern Procs Created per Sec attribute 134
Kern Procs Exit per Sec attribute 134
KPX_Active_Disk_Pct_Info situation 197
KPX_AME_CPU_Used_High_Warn situation 186
KPX_AME_Deficit_Mem_Warn situation 187
KPX_Avg_Read_Transfer_MS_Info situation 197
KPX_Avg_Req_In_WaitQ_MS_Info situation 200
KPX_Avg_Write_Transfer_MS_Info situation 199
KPX_Bad_Pkts_Recvd_Info situation 188
KPX_Device_Stopped_Warn situation 197
KPX_Failed_Read_Per_Sec_Info situation 198
KPX_Failed_Writes_Per_Sec_Info situation 199
KPX_LPAR_MaxCPUCapUsed_Info situation 207
KPX_LPAR_Moved_Info situation 207
KPX_LPARBusy_pct_Warn situation 204
KPX_LPARentused_Info situation 206
KPX_LPARfreepool_Warn situation 205
KPX_LPARPhanIntrs_Info situation 206
KPX_LPARPhyBusy_pct_Warn situation 205
KPX_LPARphyp_used_Info situation 207
KPX_LPARvcs_Info situation 205
KPX_Media_Spd_Half_Duplex_Warn situation 190
KPX_memrepage_Info situation 184
KPX_Netwk_Bandwidth_High_Info situation 190
KPX_perCPU_cs_Info situation 203
KPX_perCPU_execs_Info situation 202
KPX_perCPU_forks_Info situation 202
KPX_perCPU_syscalls_Info situation 201
KPX_perip_InputErrs_Info situation 190
KPX_perip_InputPkts_Drop_Info situation 191
KPX_perip_OutputErrs_Info situation 191
KPX_perproc_IO_pgf_Info situation 194
KPX_perproc_mem_textsz_Info situation 196
KPX_perproc_memres_datasz_Info situation 195
KPX_perproc_memres_textsz_Info situation 195
KPX_perproc_nonIO_pgf_Info situation 194
KPX_perproc_vol_cs_Info situation 196
KPX_PHYP_Pct_High_Info situation 201
KPX_Pkts_Recv_Errors_Info situation 188
KPX_Pkts_Sent_Errors_Info situation 187
KPX_Qoverflow_Info situation 189
KPX_Read_Timeouts_Per_Sec_Info situation 198
KPX_Recv_pkts_dropped_Info situation 189
KPX_Reduced_Proc_Freq_Info situation 201
KPX_Sent_Pkts_Dropped_Info situation 188
KPX_ServiceQ_Full_Per_Sec_Info situation 200
KPX_TCP_ConnEst_Info situation 192
KPX_TCP_ConnInit_Info situation 192
KPX_Tot_execs_Info situation 204
KPX_Tot_forks_Info situation 203
KPX_Tot_syscalls_Info situation 203
KPX_totnum_procs_Info situation 194
KPX_totproc_cs_Info situation 193
KPX_totproc_load_avg_Info situation 193
KPX_totproc_runq_avg_Info situation 193
KPX_user_acct_locked_Info situation 208

- KPX_user_idletime_Info situation 209
- KPX_user_login_retries_Info situation 208
- KPX_vmm_pgfault_Info situation 185
- KPX_vmm_pginwait_Info situation 184
- KPX_vmm_pgout_pend_Info situation 186
- KPX_vmm_pgreclm_Info situation 185
- KPX_vmm_unpin_low_Warn situation 186
- KPX_WPAR_Admin_Op_Info situation 212
- KPX_WPAR_Broken_Warn situation 210
- KPX_WPAR_CPU_Usage_Warn situation 209
- KPX_WPAR_Mem_Usage_Warn situation 210
- KPX_WPAR_Min_CPU_Limit_Info situation 211
- KPX_WPAR_Min_Mem_Limit_Info situation 212
- KPX_WPAR_RC_Inactive_Info situation 210
- KPX_WPAR_Unlim_CPU_Shares_Info situation 211
- KPX_WPAR_Unlim_Mem_Shares_Info situation 212
- KPX_Write_Timeout_Per_Sec_Info situation 199

L

- language packs 5
 - installing 5
 - silent installation 5
- Last Machine ID attribute 83
- Load Avg attribute 134
- Location attribute 113
- Logical Blk Buffer Cache Reads per Sec attribute 143
- Logical Blk Buffer Cache Writes per Sec attribute 143
- Logical Context Switches attribute 46
- Logical Partition attribute group 72
- Logical Processor Affinity attribute 44
- Logical Read Requests attribute 45
- Logical Volume Details workspace 15
- Logical Volumes attribute group 85
- Logical Write Requests attribute 45
- Login Date Time attribute 34
- Loginretries attribute 55
- LPAR CPU Consumed Pct attribute 167
- LPAR Entitlement attribute 168
- LPAR Information workspace 17
- LPAR Memory Size MB attribute 178
- LPAR Memory Used Pct attribute 178
- LPAR Num attribute 146
- LPAR Number attribute 74

M

- Machine ID attribute 82
- Major Page Faults attribute 43
- Mask attribute 111
- Max Compressed Memory Size MB attribute 27
- Max CPU Cap Used Pct attribute 83
- Max CPU Capacity attribute 78
- Max Dispatch Latency attribute 79
- Max Memory attribute 77
- Max Packet Size attribute 139
- Max Phys CPUs attribute 77
- Max Read Service MS attribute 60
- Max Request In WaitQ MS attribute 63
- Max TransmitsQ attribute 106
- Max TransmitsQ per Sec attribute 94
- Max Virt CPUs attribute 78
- Max Write Service MS attribute 62
- Maximum Pool Capacity attribute 84
- Media Speed Running attribute 102
- Mem Alloc Failures attribute 108

- Mem Alloc Failures per Sec attribute 99
- Mem Consumed Pct attribute 162
- Mem Desired Pct attribute 162
- Mem Hard Max attribute 164
- Mem min attribute 163
- Mem shares attribute 163
- Mem Soft Max attribute 163
- Mem total attribute 162
- Memory
 - situations 184
 - workspaces
 - descriptions 13
- Memory Information workspace 13
- Memory KB attribute 150, 152
- Memory Not Pinned attribute 155
- Memory Size MB attribute 119, 176
- Message Ops attribute 44
- Min CPU Capacity attribute 78
- Min Memory attribute 77
- Min Packet Size attribute 139
- Min Read Service MS attribute 60
- Min Req Virt CPU attribute 80
- Min Request In WaitQ MS attribute 63
- Min Virt CPUs attribute 78
- Min Write Service MS attribute 62
- Minimum Uncompressed Memory Size MB attribute 27
- Minor Page Faults attribute 43
- Mount Options attribute 170
- Mount Point attribute 65, 86, 169
- MPIO Attributes attribute group 86
- MPIO Status attribute group 87
- MPIO Storage Information workspace 15
- MTU attribute 111
- Multicast Pkt Received per Sec attribute 68
- Multicast Pkt Transmitted per Sec attribute 69
- Multicast Pkts Recvd attribute 105
- Multicast Pkts Recvd per Sec attribute 93
- Multicast Pkts Sent attribute 104
- Multicast Pkts Sent per Sec attribute 91

N

- Name attribute 56, 57, 65, 67, 85, 89, 103, 111, 112, 122, 125, 149, 151, 157
- Nameserver attribute 112
- Network Adapter Utilization workspace 14
- Network Adapters Rates attribute group 89
- Network Adapters Totals attribute group 103
- Network Interfaces attribute group 110
- Network Interfaces workspace 14
- Network Mask attribute 175
- Network Protocol Views workspace 14
- Networking
 - situations 187
 - workspaces
 - descriptions 14
- Nice attribute 127
- NIM Resources attribute group 112
- NIM Resources workspace 17
- Node attribute 25, 33, 35, 38, 47, 54, 56, 57, 65, 67, 70, 72, 85, 86, 88, 89, 103, 110, 112, 114, 116, 119, 122, 125, 126, 133, 135, 140, 142, 145, 146, 149, 151, 152, 156, 159, 166, 169, 170, 175, 176
- Node Name attribute 169
- Non Comp Memory attribute 121
- Non IO Page Fault per Sec attribute 128
- Non IP Pkts Larger Than MTU attribute 108

- Non IP Pkts Larger Than MTU per Sec attribute 99
- Noncomp Repage Pct attribute 156
- Normalized Average Physical CPU Idle Mode attribute 54
- Normalized Average Physical CPU System Mode attribute 53
- Normalized Average Physical CPU User Mode attribute 53
- Normalized Average Physical CPU Wait Mode attribute 54
- Num Connections attribute 139
- Num CPUs Consumed attribute 167
- Num Hypervisor Calls per Sec attribute 81
- Num Syscalls per Sec attribute 141
- Number of Active Physical Volumes attribute 157
- Number of CPUs attribute 47
- Number of Logical CPUs attribute 75
- Number of Logical Volumes attribute 123, 157
- Number of Physical CPUs attribute 75
- Number of Physical CPUs in Shared Pool attribute 76
- Number of Physical Volumes attribute 157
- Number of Stale Partitions attribute 123
- Number of Stale Physical Volumes attribute 158
- Number of Virtual CPUs attribute 75

O

- Object Name attribute 117
- Object Status attribute 117
- Object Type attribute 117
- Old Machine ID attribute 85
- Online Mem attribute 79
- operating systems 5
- Output Errors per Sec attribute 69
- Output Pkts Dropped attribute 108
- Output Pkts Dropped per Sec attribute 98
- Output Pkts Failures attribute 108
- Output Pkts Failures per Sec attribute 98
- Output Pkts Generated attribute 108
- Output Pkts Generated per Sec attribute 98
- overview
 - IBM Tivoli Monitoring 1
- overview of System p agents 1
- Owner attribute 150, 152, 171

P

- Packets Forwarded per Sec attribute 71
- Packets Received per Sec attribute 67, 70
- Packets Transmitted per Sec attribute 68
- Packets Xmitted attribute 140
- Page Fault per Sec attribute 154
- Page Reclaim per Sec attribute 154
- Page Space Used attribute 129
- Pagein Wait per Sec attribute 154
- Pages Read per Sec attribute 115, 153
- Pages Written per Sec attribute 116, 153
- Paging Space attribute group 114
- Paging Space Read per Sec attribute 153
- Paging Space Written per Sec attribute 153
- Parent attribute 56, 57, 88, 89, 103
- Parent Process ID attribute 127
- Path Name Lookup per Sec attribute 42
- Path Status attribute 88
- PCPU attribute 35
- Peak Rate attribute 138
- Pending Client Pageout attribute 156
- performance considerations 238
- Performance Object Status attribute group 116
- Performance Object Status workspace 12

- Phantom Interrupts attribute 81
- Phys Blk Buffer Cache Reads per Sec attribute 144
- Phys Blk Buffer Cache Writes per Sec attribute 144
- Phys Busy Pct attribute 76
- Phys Raw Reads per Sec attribute 144
- Phys Raw Writes per Sec attribute 144
- Physical Consumption attribute 46, 49
- Physical CPU Size of Shared Pool attribute 83
- Physical CPU Units Used attribute 82
- Physical Memory attribute group 119
- Physical Reads attribute 46
- Physical Volume Details workspace 15
- Physical Volumes attribute group 122
- Physical Writes attribute 46
- Pkts Recv Error attribute 105
- Pkts Recv Errors per Sec attribute 92
- Pkts Recvd attribute 105
- Pkts Recvd per Sec attribute 91
- Pkts Sent attribute 104
- Pkts Sent Error attribute 104
- Pkts Sent Errors per Sec attribute 90
- Pkts Sent per Sec attribute 90
- policies 217
- Policy Rule Priority attribute 135
- Pool Entitlement attribute 84
- prerequisite publications 279
- Print Queues attribute group 125
- Print Queues workspace 17
- Priority attribute 102, 110, 130
- probe rules file
 - include 276
- problems and workarounds 230
 - agent-specific 232
 - agent-specific workspaces 236
 - configuration 230
 - install 230
 - remote deployment 232
 - situations 238
 - Take Action commands 241
 - workspaces 236
- Process
 - situations 192
 - workspaces
 - descriptions 14
- Process Context Switches per Sec attribute 133
- Process Core Size attribute 131
- Process Group ID attribute 130
- Process ID attribute 126
- Process Name attribute 126
- Process UID attribute 130
- Process Views workspace 14
- Processes Detail attribute group 126
- Processes Summary attribute group 132
- Protocol attribute 136
- publications 279, 280
 - developerWorks website 280
 - IBM Tivoli Monitoring 279
 - Integrated Service Management Library 280
 - prerequisite 279
 - Redbooks 280
 - related 280
 - Technotes 280
 - wikis 280

Q

Qoverflow attribute 106
Qoverflow per Sec attribute 94
Quality Of Service attribute group 135
queries, using attributes 21
Query Name attribute 116

R

ras1 226
RC CPU Limits Hard Max attribute 168, 173
RC CPU Limits Min attribute 173
RC CPU Limits Soft Max attribute 173
RC CPU Shares attribute 172
RC Is Active attribute 172
RC Max Processes attribute 174
RC Max Threads attribute 174
RC Memory Limits Hard Max attribute 173, 178
RC Memory Limits Min attribute 173
RC Memory Limits Soft Max attribute 173
RC Memory Shares attribute 173
RC per Process VM Limit attribute 174
RC RSet attribute 172
Read Char per Sec attribute 41
Read KB per Sec attribute 59
Read Timeouts per Sec attribute 60
Read Transfers per Sec attribute 59
Reads per Sec attribute 40, 141
Real Pkts Bridged attribute 106
Real Pkts Bridged per Sec attribute 94
Real Pkts Consumed attribute 106
Real Pkts Consumed per Sec attribute 95
Real Pkts Dropped attribute 107
Real Pkts Dropped per Sec attribute 96
Real Pkts Fragmented attribute 106
Real Pkts Fragmented per Sec attribute 95
Real Pkts Recvd attribute 106
Real Pkts Recvd per Sec attribute 94
Real Pkts Sent attribute 106
Real Pkts Sent per Sec attribute 95
Received Datagrams per Sec attribute 71
Recv Interrupts attribute 105
Recv Interrupts per Sec attribute 93
Recv Pkts Dropped attribute 105
Recv Pkts Dropped per Sec attribute 92
Redbooks 280
remote
 installation and configuration 9
remote deployment
 problems and workarounds 232
Repage Count per Sec attribute 127
Repaging Rate attribute 122
requirements 5
 configuration 5
 installation 5
Resident Data Size attribute 129
Resident Text Size attribute 128
Resources - Summary Graph workspace 13
response file template 5
Roles attribute 55
Run Queue attribute 44
Run Queue Avg attribute 133

S

Semaphore Ops attribute 44
Sent Interrupts attribute 104
Sent Interrupts per Sec attribute 91
Sent Pkts Dropped attribute 104
Sent Pkts Dropped per Sec attribute 90
Server attribute 113
Service Class attribute 138
ServiceQ Full per Sec attribute 64
Shared Mode attribute 74
Shares usr Dir attribute 171
Signals In per Sec attribute 129
silent installation 5
silent installation of language packs 5
situations 183
 additional information
 predefined, defined 181
 KPX_Active_Disk_Pct_Info 197
 KPX_AME_CPU_Used_High_Warn 186
 KPX_AME_Deficit_Mem_Warn 187
 KPX_Avg_Read_Transfer_MS_Info 197
 KPX_Avg_Req_In_WaitQ_MS_Info 200
 KPX_Avg_Write_Transfer_MS_Info 199
 KPX_Bad_Pkts_Recvd_Info 188
 KPX_Device_Stopped_Warn 197
 KPX_Failed_Read_Per_Sec_Info 198
 KPX_Failed_Writes_Per_Sec_Info 199
 KPX_LPAR_MaxCPUCapUsed_Info 207
 KPX_LPAR_Moved_Info 207
 KPX_LPARBusy_pct_Warn 204
 KPX_LPAREntused_Info 206
 KPX_LPARfreepool_Warn 205
 KPX_LPARPhanIntrs_Info 206
 KPX_LPARPhyBusy_pct_Warn 205
 KPX_LPARphyp_used_Info 207
 KPX_LPARvcs_Info 205
 KPX_Media_Spd_Half_Duplex_Warn 190
 KPX_memrepage_Info 184
 KPX_Netwk_Bandwidth_High_Info 190
 KPX_perCPU_cs_Info 203
 KPX_perCPU_execs_Info 202
 KPX_perCPU_forks_Info 202
 KPX_perCPU_syscalls_Info 201
 KPX_perip_InputErrs_Info 190
 KPX_perip_InputPkts_Drop_Info 191
 KPX_perip_OutputErrs_Info 191
 KPX_perproc_IO_pgf_Info 194
 KPX_perproc_mem_textsz_Info 196
 KPX_perproc_memres_datsz_Info 195
 KPX_perproc_memres_textsz_Info 195
 KPX_perproc_nonIO_pgf_Info 194
 KPX_perproc_vol_cs_Info 196
 KPX_PHYP_Pct_High_Info 201
 KPX_Pkts_Recv_Errors_Info 188
 KPX_Pkts_Sent_Errors_Info 187
 KPX_Qoverflow_Info 189
 KPX_Read_Timeouts_Per_Sec_Info 198
 KPX_Recv_pkts_dropped_Info 189
 KPX_Reduced_Proc_Freq_Info 201
 KPX_Sent_Pkts_Dropped_Info 188
 KPX_ServiceQ_Full_Per_Sec_Info 200
 KPX_TCP_ConnEst_Info 192
 KPX_TCP_ConnInit_Info 192
 KPX_Tot_execs_Info 204
 KPX_Tot_forks_Info 203
 KPX_Tot_syscalls_Info 203
 KPX_totnum_procs_Info 194

- situations (*continued*)
 - KPX_totproc_cs_Info 193
 - KPX_totproc_load_avg_Info 193
 - KPX_totproc_runq_avg_Info 193
 - KPX_user_acct_locked_Info 208
 - KPX_user_idletime_Info 209
 - KPX_user_login_retries_Info 208
 - KPX_vmm_pgfault_Info 185
 - KPX_vmm_pginwait_Info 184
 - KPX_vmm_pgout_pend_Info 186
 - KPX_vmm_pgrealm_Info 185
 - KPX_vmm_unpin_low_Warn 186
 - KPX_WPAR_Admin_Op_Info 212
 - KPX_WPAR_Broken_Warn 210
 - KPX_WPAR_CPU_Usage_Warn 209
 - KPX_WPAR_Mem_Usage_Warn 210
 - KPX_WPAR_Min_CPU_Limit_Info 211
 - KPX_WPAR_Min_Mem_Limit_Info 212
 - KPX_WPAR_RC_Inactive_Info 210
 - KPX_WPAR_Unlim_CPU_Shares_Info 211
 - KPX_WPAR_Unlim_Mem_Shares_Info 212
 - KPX_Write_Timeout_Per_Sec_Info 199
 - overview 181
 - predefined 181
 - problems and workarounds 238
 - Situation Editor 181
- situations, using attributes 21
- Size MB attribute 65, 86, 123, 158
- Slack Term attribute 139
- SMT Mode attribute 75
- SMT Threads attribute 84
- Source IP Addr end attribute 136
- Source IP Addr start attribute 136
- Source Port end attribute 137
- Source Port start attribute 137
- State attribute 56, 85, 111, 113, 122, 125, 130, 157, 171
- Status
 - situations 196
 - workspaces
 - descriptions 15
- Status attribute 88
- Status workspace 15
- Steals per Sec attribute 155
- Stolen Busy Cycles Pct attribute 50
- Stolen Idle Cycles Pct attribute 50
- Storage
 - situations 197
 - workspaces
 - descriptions 15
- Swap Queue Avg attribute 133
- Syscall Read Chars per Sec attribute 142
- Syscall Write Chars per Sec attribute 143
- Syscalls per Sec attribute 40
- System
 - situations 201
 - workspaces
 - descriptions 16
- System Call attribute group 140
- System CPU Pct attribute 39, 48, 73, 167
- System Inventory workspace 13
- System IO attribute group 142
- System p agents
 - overview 1
- System Software Version attribute 47
- System Storage Information workspace 16

T

- tacmd addSystem command 9
- TADDM attribute group 145
- Take Action commands
 - additional information 215
 - overview 215
 - predefined 215, 217
 - problems and workarounds 241
- Target Compressed Memory Size MB attribute 26
- Target Memory Expansion Factor attribute 26
- TCP attribute group 146
- Technotes 280
- Text Size attribute 128
- Thread Count attribute 131
- ThreadQ Overflow Pkts attribute 109
- ThreadQ Overflow Pkts per Sec attribute 99
- Tier Num attribute 160
- Time Backup per Sec attribute 101
- Time In Hypervisor Pct attribute 81
- Time Spent in Hypervisor Pct attribute 51
- Times Backup attribute 110
- Times Primary attribute 110
- Times Primary per Sec attribute 101
- Timestamp attribute 25, 34, 35, 38, 47, 54, 56, 57, 65, 67, 70, 72, 85, 87, 88, 89, 103, 110, 112, 114, 116, 119, 122, 125, 126, 133, 135, 141, 142, 145, 146, 149, 151, 152, 156, 159, 166, 169, 170, 175, 176
- Tivoli Business Service Manager
 - components for integrating with 275
 - configuring additional IBM Tivoli Monitoring web services 277
 - creating a service 276
 - creating data source mapping 277
 - installing Discovery Library Toolkit 276
 - integration 275
 - launching from Tivoli Enterprise Portal 277
 - Tivoli Enterprise Portal
 - Tivoli Integration Facility (EIF) probe 275
 - viewing data in Tivoli Enterprise Portal 277
- Tivoli Business Service Managerintegration tasks 276
- Tivoli Enterprise Console
 - event mapping 243
- Tivoli Event Integration Facility (EIF) probe
 - configuring 276
- Top 50 CPU Processes attribute group 149
- Top 50 Memory Processes attribute group 151
- Top Resource Usage workspace 17
- Top Resources
 - situations 208
 - workspaces
 - descriptions 17
- TOS In attribute 139
- TOS Out attribute 139
- Total CPU Time attribute 132
- Total Num Processes attribute 135
- Total Packets Reassembled per Sec attribute 71
- Total Packets Received per Sec attribute 148
- Total Packets Sent per Sec attribute 147
- Total Size MB attribute 114
- Total Used Pct attribute 74
- trace
 - turn off 229
 - turn on 228
- trace settings 226
- tracing 224
- Transfers Bytes per Sec attribute 58
- Transfers KB per Sec attribute 58

- Transfers per Sec attribute 58
- TransmitsQ attribute 105
- TransmitsQ per Sec attribute 93
- Transmitted Datagrams per Sec attribute 71
- troubleshooting 219
 - agent-specific 232
 - agent-specific workspaces 236
 - installation 230
 - problems and workarounds 230
 - remote deployment 232
 - situations 238
 - Take Action commands 241
 - turn off trace 229
 - turn on trace 228
 - uninstallation 230
 - workspaces 236
- True Memory Size MB attribute 25
- tty attribute 34
- Type attribute 56, 57, 86, 89, 103, 113, 170

U

- Unallocated CPU In Pool attribute 79
- Uncompressed Data Size MB attribute 28
- Uncompressed Memory Free Pct attribute 32
- Uncompressed Memory In Use MB attribute 31
- Uncompressed Memory In Use Pct attribute 31
- Uncompressed Memory Size MB attribute 31
- Uncompressed Number of Working Pages attribute 32
- Uncompressed True Memory In Use Pct attribute 32
- Unique ID attribute 125
- Uptime attribute 82
- Used MB attribute 66, 115, 124, 158
- Used Memory MB attribute 120, 177
- Used Memory Pct attribute 121, 177
- Used Pct attribute 66, 115, 124, 159
- User
 - situations 208
 - workspaces
 - descriptions 18
- User CPU Pct attribute 39, 48, 72, 166
- User Information workspace 18
- user interface options 4
- User Name attribute 34, 55, 127
- User Settable attribute 87
- Utilization Avg attribute 134

V

- Value attribute 87
- VFS Type attribute 169
- views
 - Active Memory Expansion workspace 13
 - CPU Information workspace 16
 - CPU Utilization workspace 16
 - File Systems workspace 15
 - Logical Volume Details workspace 15
 - LPAR Information workspace 17
 - Memory Information workspace 13
 - MPIO Storage Information workspace 15
 - Network Adapter Utilization workspace 14
 - Network Interfaces workspace 14
 - Network Protocol Views workspace 14
 - NIM Resources workspace 17
 - Performance Object Status workspace 12
 - Physical Volume Details workspace 15

- views (*continued*)
 - Print Queues workspace 17
 - Process Views workspace 14
 - Resources - Summary Graph workspace 13
 - Status workspace 15
 - System Inventory workspace 13
 - System Storage Information workspace 16
 - Top Resource Usage workspace 17
 - User Information workspace 18
 - Volume Groups and Logical Volumes workspace 16
 - Workload Manager workspace 17
 - WPAR CPU workspace 18
 - WPAR Details workspace 18
 - WPAR Memory workspace 18
 - WPAR Network and Filesystem details workspace 19
 - WPAR Process Views workspace 19
 - WPAR Summary workspace 19
- Virt Context CPU Switches per Sec attribute 77
- Virtual Memory Management attribute group 152
- Virtual Pkts Bridged attribute 107
- Virtual Pkts Bridged per Sec attribute 96
- Virtual Pkts Consumed attribute 107
- Virtual Pkts Consumed per Sec attribute 96
- Virtual Pkts Dropped attribute 107
- Virtual Pkts Dropped per Sec attribute 97
- Virtual Pkts Fragmented attribute 107
- Virtual Pkts Fragmented per Sec attribute 97
- Virtual Pkts Recvd attribute 107
- Virtual Pkts Recvd per Sec attribute 96
- Virtual Pkts Sent attribute 107
- Virtual Pkts Sent per Sec attribute 97
- Volume Group Name attribute 65, 86, 123
- Volume Groups and Logical Volumes workspace 16
- Volume Groups attribute group 156
- Voluntary Context Switches per Sec attribute 129

W

- wikis 280
- WLM Name attribute 132
- workarounds 230
- Workflow Editor 217
- Workload Manager attribute group 159
- Workload Manager workspace 17
- workspaces
 - Active Memory Expansion 13
 - AIX Premium 12
 - CPU Information 16
 - CPU Utilization 16
 - descriptions 12
 - File Systems 15
 - Logical Volume Details 15
 - LPAR Information 17
 - Memory 13
 - Memory Information 13
 - MPIO Storage Information 15
 - Network Adapter Utilization 14
 - Network Interfaces 14
 - Network Protocol Views 14
 - Networking 14
 - NIM Resources 17
 - Performance Object Status 12
 - Physical Volume Details 15
 - predefined 11
 - Print Queues 17
 - problems and workarounds 236
 - Process 14

- workspaces (*continued*)
 - Process Views 14
 - Resources - Summary Graph 13
 - Status 15
 - Storage 15
 - System 16
 - System Inventory 13
 - System Storage Information 16
 - Top Resource Usage 17
 - Top Resources 17
 - User 18
 - User Information 18
 - Volume Groups and Logical Volumes 16
 - Workload Manager 17
 - WPAR 18
 - WPAR CPU 18
 - WPAR Details 18
 - WPAR Memory 18
 - WPAR Network and Filesystem details 19
 - WPAR Process Views 19
 - WPAR Summary 19
- Workspaces
 - additional information 11
 - overview 11
- WPAR
 - situations 209
 - workspaces
 - descriptions 18
 - WPAR Application Path attribute 172
 - WPAR CPU attribute group 166
 - WPAR CPU Consumed Pct attribute 167
 - WPAR CPU workspace 18
 - WPAR Details workspace 18
 - WPAR FileSystem attribute group 169
 - WPAR Information attribute group 170
 - WPAR Memory workspace 18
 - WPAR Name attribute 132, 166, 169, 170, 175, 176
 - WPAR Network and Filesystem details workspace 19
 - WPAR Network attribute group 175
 - WPAR Physical Memory attribute group 176
 - WPAR Process Views workspace 19
 - WPAR Summary workspace 19
 - Write Char per Sec attribute 42
 - Write Timeout per Sec attribute 62
 - Write Transfers per Sec attribute 61
 - Writes per Sec attribute 40, 141
 - Written KB per Sec attribute 59

Z

- Zero Fill per Sec attribute 154



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