

IBM Tivoli Composite Application Manager
Agent for DB2
Version 7.1.3

Troubleshooting Guide



Note

Before using this information and the product it supports, read the information in [“Notices” on page 51.](#)

This edition applies to version 7.1.1 of IBM® Tivoli® Composite Application Manager Agent for DB2® (product number 5724-I45) and to all subsequent releases and modifications until otherwise indicated in new editions.

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Chapter 1. Troubleshooting basics

To troubleshoot a problem, gather information about the problem for IBM Software Support, use logging data, and consult the lists of identified problems and workarounds.

For general troubleshooting information, see the *IBM Tivoli Monitoring Troubleshooting Guide*. For other problem-solving options, see [Chapter 4, “Support information,” on page 45](#).

You can resolve some problems by ensuring that your system matches the system requirements. The most up-to-date requirements are in the [Software product compatibility reports](http://publib.boulder.ibm.com/infocenter/prodguid/v1r0/clarity/index.html) (<http://publib.boulder.ibm.com/infocenter/prodguid/v1r0/clarity/index.html>).

The following activities can help you find a solution to the problem you are having:

- [“Gathering product information for IBM Software Support” on page 1](#)
- [“Using logging” on page 2](#)
- [“Consulting the lists of identified problems and workarounds” on page 2](#)

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 1 on page 1](#).

Table 1. 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 4 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> .
DB2 Universal Database information	Version number and patch level Sample application data file (if monitoring a file)
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.• DB2 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 monitoring agent. *Logging* refers to the text messages and trace data that is generated by the 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 [Chapter 2, "Trace logging," on page 3](#) 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, configuration, uninstallation
- Remote deployment
- Agent
- Workspace
- Situation
- Take Action commands

See [Chapter 3, "Problems and workarounds," on page 15](#) for information about symptoms and detailed workarounds for these types of problems.

For general troubleshooting information, see the *IBM Tivoli Monitoring Troubleshooting Guide*.

Chapter 2. Trace logging

Trace logs capture information about the operating environment when component software fails to operate as intended. 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.

Important: The documentation refers to the RAS facility in IBM Tivoli Monitoring as "RAS1".

IBM Software Support uses the information captured by trace logging to trace a problem to its source or to determine why an error occurred. The default configuration for trace logging, such as whether trace logging is enabled or disabled and trace level, depends on the source of the trace logging. Trace logging is always enabled.

Overview of log file management

"Principal trace log files" on page 4 provides the names, locations, and descriptions of RAS1 log files. The log file names adhere to the following naming convention:

- Windows systems:

```
hostname_product_instance_program_timestamp-nn.log
```

- UNIX and Linux® systems

```
hostname_product_program_timestamp-nn.log
```

where:

- *hostname* is the host name of the computer on which the monitoring component is running.
- *product* is the two-character product code. For DB2 agent, the product code is `ud`.
- *instance* is the name of the database instance that is being monitored.
- *program* is the name of the program being run.
- *timestamp* is an eight-character hexadecimal timestamp representing the time at which the program started.
- *nn* is a rolling log suffix. See "Examples of trace logging" on page 3 for details of log rolling.

Examples of trace logging

For example, if a DB2 Universal Database instance "dbinst02" is running on computer "server01", the RAS log file for the DB2 agent might be named as follows:

```
server01_ud_dbinst02_kudcma_437fc59-01.log
```

Important: These examples show log names on Windows systems, where the program is named **kudcma**.

For long-running programs, the *nn* suffix is used to maintain a short history of log files for that startup of the program. For example, the `kudcma` program might have a series of log files as follows:

```
server01_ud_dbinst02_kudcma_437fc59-01.log  
server01_ud_dbinst02_kudcma_437fc59-02.log  
server01_ud_dbinst02_kudcma_437fc59-03.log
```

As the program runs, the first log (*nn=01*) is preserved because it contains program startup information. The remaining logs "roll." In other words, when the set of numbered logs reach a maximum size, the remaining logs are overwritten in sequence. Each time a program is started, a new timestamp is assigned

to maintain a short program history. For example, if the DB2 agent is started twice, it might have log files as follows:

```
server01_ud_dbinst02_kudcma_437fc59-01.log
server01_ud_dbinst02_kudcma_437fc59-02.log
server01_ud_dbinst02_kudcma_437fc59-03.log

server01_ud_dbinst02_kudcma_537fc59-01.log
server01_ud_dbinst02_kudcma_537fc59-02.log
server01_ud_dbinst02_kudcma_537fc59-03.log
```

Each program that is started has its own log file. For example, the DB2 agent would have agent logs in this format:

```
server01_ud_dbinst02_kudcma_437fc59-01.log
```

Other logs, such as logs for collector processes and Take Action commands, have a similar syntax, as in the following example:

```
server01_ud_dbinst02_kudBackupDatabase_447fc59-01.log
```

where **kudBackupDatabase** is the name of a program.

Remember: When you communicate with IBM Software Support, you must capture and send the RAS1 log that matches any problem occurrence that you report.

Principal trace log files

Trace log files are located on various systems.

Table 2 on page 4 contains locations, file names, and descriptions of trace logs that can help determine the source of problems with agents.

Table 2. 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 2. 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_ud00_timestamp.1</i>og and <i>hostname_ud00_timestamp.p</i>idnnnnn 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-p-nn.log</i> • UNIX: <i>install_dir/logs/hostname_cq_HEXtimestamp-p-nn.log</i> • Linux: <i>install_dir /logs/hostname_cq_HEXtimestamp-p-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_ud00_timestamp.1</i>og and <i>hostname_ud00_timestamp.p</i>idnnnnn in the <i>install_dir/logs</i> path, where <i>nnnnn</i> is the process ID number.</p>	Traces activity on the portal server.

Table 2. Trace log files for troubleshooting agents (continued)

System where log is located	File name and path	Description
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</i> \InstallITM • UNIX: <i>install_dir</i>/logs • Linux: <i>install_dir</i>/logs 	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"> • Windows: <i>hostname_ud00_instance_name_kud00agent_HEXtimestamp-nn.log</i> in the <i>install_dir</i> \tmaitm6\logs directory • UNIX: <i>hostname_ud00_instance_name_kud00agent_HEXtimestamp-nn.log</i> in the <i>install_dir</i>/logs directory <p>These logs are in the following directories:</p> <ul style="list-style-type: none"> • Windows: <i>install_dir</i> \tmaitm6\logs • UNIX: <i>install_dir</i>/logs 	Traces activity of the monitoring agent.
On the computer that hosts the monitoring agent	<p>The agent operations log files are as follows:</p> <p><i>instance_hostname_UD00.LG0</i> is the current log created when the agent is started.</p> <p><i>instance_hostname_UD00.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"> • Windows: <i>install_dir</i> \tmaitm6\logs • UNIX: <i>install_dir</i>/logs 	<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

Table 2. Trace log files for troubleshooting agents (continued)

System where log is located	File name and path	Description
<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>nn</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. 		

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

Typically IBM Software Support applies specialized knowledge to analyze trace logs to determine the source of problems. However, you can open trace logs in a text editor to learn some basic facts about your IBM Tivoli Monitoring environment.

Example one

This excerpt shows the typical .LG0 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}kdcl0cl.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:KUD is ON-LINE.
(42C3079B.0000-6A4:kpxreqhb.cpp,644,"HeartbeatInserter") Remote node SERVER5B:KUD is OFF-LINE.
```

Key points regarding the preceding excerpt:

- The monitoring server appends the **KUD** product code to the server name to form a unique name (SERVER5B:KUD) for this instance of DB2 agent. This unique name enables you to 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 [“RAS trace parameters” on page 8](#) provide these entries.

On Windows systems, you can use the following alternate method to view trace logs:

1. To play the Manage Tivoli Enterprise Monitoring Services window, click **Start > Programs > IBM Tivoli Monitoring > Manage Tivoli Monitoring Services**.
2. Right-click a component, and select **Advanced > View Trace Log**. The program displays the Select Log File window that lists the RAS1 logs for the DB2 agent.
3. Select a log file from the list and click **OK**. You can also use this viewer to access remote logs.

Important: The viewer converts time stamps in the logs to a readable format.

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 3](#) 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 Composite Application Manager Agent for DB2 uses RAS1 tracing and generates the logs described in [Table 2 on page 4](#). The default RAS1 trace level is ERROR.

Procedure

1. Open the **Manage Tivoli Enterprise Monitoring Services** window.
 2. Select **Advanced > Edit Trace Parm.** 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:kud ALL)
 - Maximum error tracing. KBB_RAS1=ERROR (UNIT:kud 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 2 on page 4](#) 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

Agents use RAS1 tracing and generate the logs described in [Table 2 on page 4](#). The default RAS1 trace level is ERROR.

Procedure

1. Open the trace options file:

- **Windows systems:**

```
install_dir\tmaitm6\KUDENV_instance name
```

- **UNIX systems:**

```
install_dir /config/ud_instance name.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:kud 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 2 on page 4](#) 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 `F1`.

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
kbbaclc.c, 400, May 29 2007, 12:54:27, 1.4, ACF1
kbbac1i.c, 400, May 29 2007, 12:54:28, 1.11, ACF1
vkdh5fcn.c, 400, May 29 2007, 13:00:11, 1.1, KDH
kdhserrq.c, 400, May 29 2007, 12:59:53, 1.1, KDH
kdhb1pr.c, 400, May 29 2007, 12:59:39, 1.1, KDH
kdhsghn.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 kbbccrd class of the Windows OS agent, the command is:

```
ras1 set (UNIT:kbbccrd 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_Utills  error   /tmp/tec_reception
SP
# to debug Agent Utils
tec_rule Agent_Utills      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_Utills  trace2  /tmp/tec_reception
SP
# to debug Agent Utils
tec_rule Agent_Utills      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
```


Chapter 3. Problems and workarounds

The known problems and workarounds are organized into types of problems that might occur with an agent, for example installation and configuration problems and workspace problems.

You can resolve some problems by ensuring that your system matches system requirements. The most up-to-date requirements are in the [Software product compatibility reports](http://publib.boulder.ibm.com/infocenter/prodguid/v1r0/clarity/index.html) (<http://publib.boulder.ibm.com/infocenter/prodguid/v1r0/clarity/index.html>).

For general troubleshooting information, see the *IBM Tivoli Monitoring Troubleshooting Guide*.

Installation and configuration troubleshooting

This section provides tables that show solutions for the following types of installation, configuration, and uninstallation problems:

- Operating system problems
- Problems with database applications

Table 3. Problems and solutions for installation and configuration for agents that run on UNIX and Linux systems	
Problem	Solution
<p>After installing IBM Tivoli Monitoring 6.2.3 fix pack 1 and then installing the DB2 agent you attempt to run the following command</p> <pre>./cinfo -t ud</pre> <p>This results in an error message containing the following line:</p> <pre>grep: can't open jraix523.ver</pre>	<p>There is currently no solution to this problem at this time.</p>
<p>When you upgrade to IBM Tivoli Monitoring, you might need to apply fix packs to Candle, Version 350, agents.</p>	<p>Fix packs for Candle, Version 350, are delivered as each monitoring agent is upgraded to IBM Tivoli Monitoring.</p> <p>Important: The IBM Tivoli Monitoring download image or CD provides application fix packs for the monitoring agents that are installed from that CD (for example, the agents for operating systems such as Windows, Linux, UNIX, and i5/OS). The upgrade software for other agents is located on the download image or CDs for that specific monitoring agent, such as the agents for database applications.</p> <p>If you do not upgrade the monitoring agent to IBM Tivoli Monitoring, the agent continues to work. However, you must upgrade to have all the functionality that IBM Tivoli Monitoring offers.</p>
<p>Presentation files and customized OMEGAMON® DE screens for Candle monitoring agents need to be upgraded to a new Linux on z/Series system.</p>	<p>The upgrade from version 350 to IBM Tivoli Monitoring handles export of the presentation files and the customized OMEGAMON DE screens.</p>

Table 3. Problems and solutions for installation and configuration for agents that run on UNIX and Linux systems (continued)

Problem	Solution
The following message is displayed in the installation log for some Windows agents when upgrading from Tivoli OMEGAMON V350: <REPLACELINE> Pair missing 1=[KBB_RAS1=ERROR] no 2, skipped.	There is no workaround. The previous value of KBB_RAS1 from the OMEGAMON V350 agent is used, preserving prior customer settings for this variable. The problem has no adverse effect on the installation or subsequent operation of the monitoring agent .
Non-ASCII characters entered into the configuration window for the monitoring agent do not show up or are not the correct characters.	Enter only ASCII characters into these fields.
<p>During the command-line installation, you choose to install a component that is already installed, and you see the following warning:</p> <pre>WARNING - you are about to install the SAME version of "component"</pre> <p>where <i>component</i> is the name of the component that you are attempting to install.</p> <p>Important: This problem affects UNIX and Linux 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 or Linux system.</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 already installed.
<p>While installing the agent from a CD, the following message is displayed and you are not able to continue the installation:</p> <pre>install.sh warning: unarchive of "/cdrom/unix/cienv1.tar" may have failed</pre>	<p>This error is caused by low disk space. Although the install.sh script indicates that it is ready to install the agent software, the script considers the size of <i>all</i> tar files, not the size of all the files that are contained within the tar file.</p> <p>Run the df -k command to check whether the file systems have enough space to install agents.</p>

Table 3. Problems and solutions for installation and configuration for agents that run on UNIX and Linux systems (continued)

Problem	Solution
<p>You see an error similar to the following example:</p> <pre>db2inst3@aix7%> ./bin/itmcmd agent -o db2inst3 start ud CandleAgent : installer level 400 / 100. find: 0652-023 Cannot open file /home/ITM/ images. find: 0652-023 Cannot open file /home/ITM/images. find: 0652-023 Cannot open file /home/ITM/images. find: 0652-023 Cannot open file / home/ITM/images. CandleAgent : running aix513 jre. Starting agent... Agent Started... db2inst3@aix7%></pre>	<p>When the product has been installed using the root user account, you can change from the root user account to a different user account without re-installing the product.</p> <p>Use the CHMOD command to update the privileges for specific directories in the installation path for IBM Tivoli Monitoring. For example, you might use the root user account to install the DB2 agent and attempt to run the agent as the DB2 instance owner.</p> <p>Important: The error (in the "Problem" column) is occurring only for the images directory. The DB2 agent runs correctly, in spite of the error message. To avoid getting the Cannot open file... message, run the <code>chmod -R 755 directory</code> command, where <i>directory</i> is the directory specified in the error.</p>
Cannot locate the KDCBO_HOSTNAME setting.	Go to <i>install_dir/config</i> and edit the corresponding .ini file. Set the KDCBO_HOSTNAME parameter followed by the IP address. If you use multiple network interface cards (NICs), give the Primary IP address of the network interface.
The DB2 agent repeatedly restarts.	<p>You can collect data to analyze this problem as follows:</p> <ol style="list-style-type: none"> 1. Access the <i>install_dir/config/ud.ini</i> file, which is described in “RAS trace parameters” on page 8. 2. Add the following line: <code>KBB_SIG1=trace -dumpoff</code>
Agents in the monitoring environment use different communication protocols. For example, some agents have security enabled and others do not.	Configure both the monitoring server and the Warehouse Proxy server to accept multiple protocols, as described in the <i>IBM Tivoli Monitoring Installation and Setup Guide</i> .
Creating a firewall partition file: The partition file enables an agent to connect to the monitoring server through a firewall.	<p>How it works: When the agents start, they search KDCPARTITION.TXT for the following matches:</p> <ul style="list-style-type: none"> • An entry that matches the partition name OUTSIDE • An entry that also includes a valid external address. <p>For more information, see the <i>IBM Tivoli Monitoring Installation and Setup Guide</i>.</p>
<p>You see the following error:</p> <pre>Hub not registered with location broker. Error-code 1195.</pre>	Confirm that the password within the Tivoli Enterprise Monitoring Server is correct.
The DB2 agent is started and running but not displaying data in the Tivoli Enterprise Portal.	Confirm that application support for this monitoring agent has been added to the Tivoli Enterprise Monitoring Server, and confirm that you have configured the Tivoli Enterprise Portal Server as described in the <i>IBM Tivoli Monitoring Installation and Setup Guide</i> . Also, see <i>Exploring IBM Tivoli Monitoring</i> to learn about overall installation and configuration issues.

Table 3. Problems and solutions for installation and configuration for agents that run on UNIX and Linux systems (continued)

Problem	Solution
You successfully upgraded from an OMEGAMON monitoring agent to IBM Tivoli Monitoring, Version 6.2.0. However, when you configure historical data collection, you see an error message that includes, Attribute name may be invalid, or attribute file not installed for warehouse agent.	Copy the attribute files (kud.atr) for the upgraded monitoring agent to the <i>install_dir/tables/TEMS_name/ATTRLIB</i> directory on the computer where you have installed the Warehouse Proxy agent. The Warehouse Proxy agent must be able to access the short attribute names for tables and columns. That way, if the longer versions of these names exceed the limits of the Warehouse database, the shorter names can be substituted.
The DB2 agent does not start in a non-ASCII environment.	Check the agent configuration to ensure that all the values are correctly represented. To view these parameters, go to the Manage Tivoli Enterprise Monitoring Services window, select the agent template, and choose the Configure using defaults. From the resulting window, select and edit the database instance to view its parameters.
Text for configuration functions is displayed in English instead of native languages when installing and configuring the DB2 agent. For example, when using the itmcmd config command on a UNIX or Linux system.	None. You must complete configuration of the DB2 agent using English.
The system is experiencing high CPU usage.	<p>Agent process: View the CPU usage of the kudbdb2 process on a UNIX or Linux system. If CPU usage seems to be excessive, recycle the DB2 agent.</p> <p>Network Cards: The network card configurations can decrease the performance of a system. Each of the stream of packets that a network card receives (assuming 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 off-loaded and a data transfer between memory and the network card can continue without using CPU processing power. Bus-mastering cards are generally 32-bit and are based on PCI or EISA bus architectures.</p>
You successfully upgraded from an earlier version of IBM Tivoli Composite Application Manager Agent for DB2 to IBM Tivoli Composite Application Manager Agent for DB2 , Version 6.2.2. However, in the History Collection Configuration window, the names of the attribute groups that you enabled historical data collection with the earlier version changed to the following format: KUD00_ <i>tablename</i> .	Move your mouse to the name of an attribute group, and the fly-over text displays the attribute group name. You can rename these attribute groups using the Name field.

Table 3. Problems and solutions for installation and configuration for agents that run on UNIX and Linux systems (continued)

Problem	Solution
Installation of DB2 agent 7.1.1 fails on HP-UX operating system as "06.16.30.000" JR component is not found.	<p>Complete the following steps to resolve this issue:</p> <ol style="list-style-type: none"> 1. To revert the JRE version to an older one, replace the following line in <code>jrhpi116.dsc</code> file: <pre><Command> DEPOTDIR /ci/DeployLnk.sh DEPOTDIR jr hpi116 070950000 </Command></pre> <p>with</p> <pre><Command> DEPOTDIR /ci/DeployLnk.sh DEPOTDIR jr hpi116 061630000 </Command></pre> 2. Replace the following line in <code>jrhpi116.ver</code> file: <pre># Release level. ver = 709 rel = 100 # Alternate Directory for Agent Version Parity altDir=tmaitm6 VRMF = 07095000</pre> <p>with</p> <pre># Release level. ver = 616 rel = 100 # Alternate Directory for Agent Version Parity altDir=tmaitm6 VRMF = 06163000</pre>

Table 4. Problems and solutions for installation and configuration on Windows

Problem	Solution
When you upgrade to IBM Tivoli Monitoring, you might need to apply fix packs to Candle, Version 350, agents.	<p>Fix packs for Candle, Version 350, are delivered as each monitoring agent is upgraded to IBM Tivoli Monitoring.</p> <p>Important: The IBM Tivoli Monitoring download image or CD provides application fix packs for the monitoring agents that are installed from that CD (for example, the agents for operating systems such as Windows, Linux, UNIX, and i5/OS). The upgrade software for other agents is located on the download image or CDs for that specific monitoring agent, such as the agents for database applications.</p> <p>If you do not upgrade the monitoring agent to IBM Tivoli Monitoring, the agent continues to work. However, you must upgrade to have all the functionality that IBM Tivoli Monitoring offers.</p>
Presentation files and customized OMEGAMON DE screens for Candle monitoring agents need to be upgraded to a new Linux on z/Series system.	The upgrade from version 350 to IBM Tivoli Monitoring handles export of the presentation files and the customized OMEGAMON DE screens.

Table 4. Problems and solutions for installation and configuration on Windows (continued)

Problem	Solution
Diagnosing problems with product browse settings.	<p>When you have problems with browse settings, perform the following steps:</p> <ol style="list-style-type: none"> 1. Click on Start > Programs > IBM Tivoli Monitoring > Manage Tivoli Monitoring Services. The Manage Tivoli Enterprise Monitoring Services window is displayed. 2. Right-click the Windows agent and select Browse Settings. A text window is displayed. 3. Click Save As and save the information in the text file. If requested, you can forward this file to IBM Software Support for analysis.
A message similar to "Unable to find running CMS on CT_CMSLIST" in the log file is displayed.	<p>If a message similar to "Unable to find running CMS on CT_CMSLIST" is displayed in the Log file, the agent is not able to connect to the monitoring server. Confirm the following points:</p> <ul style="list-style-type: none"> • Is the computer that hosts the monitoring server running and connected to the network? • 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.
The system is experiencing high CPU usage.	<p>Agent process: View the CPU usage of the KUDCMA process on Windows systems. If CPU usage seems to be excessive, recycle the DB2 agent.</p> <p>Network Cards: The network card configurations can decrease the performance of a system. Each of the stream of packets that a network card receives (assuming 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 off-loaded and a data transfer between memory and the network card can continue without using CPU processing power. Bus-mastering cards are generally 32-bit and are based on PCI or EISA bus architectures.</p>
Text for configuration functions is displayed in English instead of native languages when installing and configuring the DB2 agent. For example, when using the Manage Tivoli Enterprise Monitoring Services GUI on a Windows system.	None. You must complete configuration of the DB2 agent using English.
You successfully upgraded from an OMEGAMON monitoring agent to IBM Tivoli Monitoring, Version 6.2.0. However, when you configure historical data collection, you see an error message that includes, Attribute name may be invalid, or attribute file not installed for warehouse agent	Copy the attribute files (kud.atr) for the upgraded monitoring agent to <i>install_dir\تماitm6\attrlib</i> on the computer where you have installed the Warehouse Proxy agent. The Warehouse Proxy agent must be able to access the short attribute names for tables and columns. That way, if the longer versions of these names exceed the limits of the Warehouse database, the shorter names can be substituted.

Table 4. Problems and solutions for installation and configuration on Windows (continued)

Problem	Solution
<p>You successfully upgraded from an earlier version of Tivoli Composite Application Manager Agent for DB2 to Tivoli Composite Application Manager Agent for DB2 , Version 6.2.2. However, in the History Collection Configuration window, the names of the attribute groups that you enabled historical data collection with the earlier version changed to the following format: KUD00_ <i>tablename</i>.</p>	<p>Move your mouse to the name of an attribute group, and the fly-over text displays the attribute group name. You can rename these attribute groups using the Name field.</p>

Table 4. Problems and solutions for installation and configuration on Windows (continued)

Problem	Solution
<p>When the DB2 agent is installed using group deployment, DB2 deploygroup was run multiple times. The group deployment starts and completes successfully, but there were multiple entries in the Deploy Status Summary workspace on the Tivoli Enterprise Portal. When the command tried to install multiple times, the additional installations were queued and then were in failed state though the agent was deployed successfully.</p> <p>Note:</p> <ul style="list-style-type: none"> • When the bundle group contains a single bundle and the deploy group contains more than one member (managed system of the same type as AIX or Linux), the deployment is successful on both systems. • When the bundle group contains more than one bundle and the deploy group contains single or multiple members, the deployment will be executed on each group member (managed system) depending on the members present in the bundle group and deploy group. • The command creates a transaction for each XX bundle for each target system; the bundle matching the operating system for the deployment member is processed successfully; and remaining transactions were in a queued or failed state 	<p>There is no solution at this time.</p>

The following table shows problems and solutions for the DB2 agent.

Table 5. Problems and solutions for installation and configuration of the DB2 agent	
Problem	Solution
ITM6.2.3 adds a new functionality for Automatic Agent support files Data Synchronization called Self Describing Agent (SDA). This automatic product support installation feature helps to eliminate errors that might occur from the inconsistent installation of application data on the IBM Tivoli Monitoring server. It also avoids the need to recycle the hub Tivoli Enterprise Monitoring Server, Tivoli Enterprise Portal Server, or remote Tivoli Enterprise Monitoring Server to perform a product installation. However when SDA is enabled certain situations available with the DB2 agent are no longer displayed and the DB2 node in the History Collection configuration is also no longer displayed.	Restart the Tivoli Enterprise Portal Server.
The installation of the self-describing agent feature fails when the DB2 agent V7.1 is installed alone.	Upgrade the following components that support SDA to V6.2.3: ax (IBM Tivoli Monitoring Shared Libraries), ue (Tivoli Enterprise Services User Interface Extensions), and ui (Tivoli Enterprise Services User Interface).
The procedure for launching the DB2 agent: Trace Parameters window in Setting RAS trace parameters fails.	<p>This problem occurs when the trace options are missing from the configuration file. You can correct the problem by doing the following steps:</p> <ol style="list-style-type: none"> 1. Edit a text file with the following path name: <ul style="list-style-type: none"> • On Windows systems: <code>install_dir\tmaitm6\logs\KUDRAS1</code> • On UNIX and Linux systems: <code>/install_dir/config/ud.ini</code> 2. Paste the following configuration setting in the file: <ul style="list-style-type: none"> • On Windows systems: <pre>KBB_RAS1=ERROR ^> C:\IBM\ITM\tmaitm6\logs\KUDRAS1.LOG</pre> <p>Remember: If you installed the product in a directory path other than the default, use that directory path instead of C:\IBM\ITM.</p> • On UNIX and Linux systems: <pre>KBB_RAS1=ERROR</pre> <p>The default installation path on UNIX is /opt/IBM/ITM.</p> 3. Save your changes. 4. Repeat the “RAS trace parameters” on page 8 procedure. Now the Tivoli Enterprise Monitoring Server: Trace Parameters window is displayed.

Table 5. Problems and solutions for installation and configuration of the DB2 agent (continued)	
Problem	Solution
After running the agent successfully, you reinstall the agent software, and collection of monitoring data stops.	See the list of supported versions in the Installation and Configuration Guide for the agent. Confirm that you are running a valid version of the target application. If you are monitoring a supported version of the database application, gather log files and other information and contact IBM Software Support, as described in Table 1 on page 1 .
Error counts are displayed in the Alert summary report in the Tivoli Enterprise Portal, however, error messages are not displayed in the Alert detail report.	Check the time stamp for the reports. If you have set up historical data collection for Alert summary report, set up historical data collection for the Alert detail report, too.
An error window is displayed with the message "Service executable not found. Cannot configure service."	This problem occurs when non-ASCII characters are entered for the DB2 instance name. Delete the configured Tivoli Enterprise Monitoring Server instance and recreate an instance specifying an instance name with ASCII characters only.
After you add the agent bundle to the Tivoli Enterprise Monitoring Server, if the IBM Tivoli Composite Application Manager Agent for DB2 is still not listed in the Select a Monitoring Agent window.	Deploy the agent through the command line.

Table 6. General problems and solutions for uninstallation	
Problem	Solution
On Windows systems, uninstallation of IBM Tivoli Monitoring fails to uninstall the entire environment.	<p>Confirm that the following problems do not exist:</p> <ul style="list-style-type: none"> • Ensure that you are the only user who is logging into the computer where you are performing an uninstallation operation. If another user is performing operations during an uninstall process, the uninstall process fails. • Be sure that you follow the general uninstallation process described in the <i>IBM Tivoli Monitoring Installation and Setup Guide</i>: <ol style="list-style-type: none"> 1. Uninstall monitoring agents first, as in the following examples: <ul style="list-style-type: none"> – Uninstall a single monitoring agent for a specific database. —OR— – Uninstall all instances of a monitoring product, such as IBM Tivoli Monitoring for Databases. 2. Uninstall IBM Tivoli Monitoring.

Table 6. General problems and solutions for uninstallation (continued)	
Problem	Solution
The way to remove inactive managed systems (systems whose status is OFFLINE) from the Navigator tree in the portal is not obvious.	<p>Use the following steps to remove, but not uninstall, an offline managed system from the Navigator tree:</p> <ol style="list-style-type: none"> 1. Click the Enterprise icon in the Navigator tree. 2. Right-click, and click Workspace > Managed System Status. 3. Right-click the offline managed system, and select Clear offline entry. <p>If you also want to uninstall the DB2 agent, use the procedure described in the <i>IBM Tivoli Monitoring Installation and Setup Guide</i>.</p>
There is no configuration command or menu option to remove an instance of the DB2 agent that was created and configured on a UNIX or Linux system.	<p>Use the following steps to delete an instance of the DB2 agent:</p> <ol style="list-style-type: none"> 1. Stop the DB2 agent. 2. Open the <i>install_dir</i> directory. 3. Open the config directory. 4. Open the .ConfigData directory. 5. Edit the kudenv file, removing all lines beginning with <i>INSTANCE</i>. 6. Save the file, and exit.
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 full name of agent.cmptag from the \$CANDLEHOME/properties/version/ directory.

Unique names for monitoring components

About this task

IBM Tivoli Monitoring might not be able to generate a unique name for monitoring components because of the truncation of names that the product automatically generates.

IBM Tivoli Monitoring automatically creates a name for each monitoring component by concatenating the subsystem name, host name, and product code separated by colons (*subsystem_name:hostname:UD*).

Important: When you monitor a multinode system, such as a database, IBM Tivoli Monitoring adds a subsystem name to the concatenated name, typically a database instance name.

The length of the name that IBM Tivoli Monitoring generates is limited to 32 characters. Truncation can result in multiple components having the same 32-character name. If this problem happens, shorten the *hostname* portion of the name as follows:

Procedure

1. Open the configuration file for the DB2 agent, which is located in the following path:
 - **On Windows systems:** *install_dir\tmaitm6\KUDCMA_instance.ini*.
 - **On UNIX and Linux systems:** ¹.
2. Find the line that begins with **CTIRA_HOSTNAME=**.
3. Type a new name for host name that is a unique, shorter name for the host computer. The final concatenated name including the subsystem name, new host name, and UD, cannot be longer than 32 characters.

¹ *install_dir/config/ud.ini*

Remember: You must ensure that the resulting name is unique with respect to any existing monitoring component that was previously registered with the Tivoli Enterprise Monitoring Server.

4. Save the file.
5. Restart the agent.
6. If you do not find the files mentioned in Step 1, perform the workarounds listed in the next paragraph.

Results

If you do not find the files mentioned in the preceding steps, uninstall the DB2 agent, and install the DB2 agent again.

Agent troubleshooting

This section lists problems that might occur with agents.

This chapter provides agent-specific troubleshooting information. See the *IBM Tivoli Monitoring Troubleshooting Guide* for general troubleshooting information.

Table 7. Agent problems and solutions for the DB2 agent	
Problem	Solution
Execution of deprecated situations results in a "Problem" status.	The defined query formula is too long. You must split your query formulae into smaller queries.
DB2 databases are visible in TADDM but not visible in TBSM.	<p>Remove the comments for the following section of the <code>CDM_TO_TB4x_MAP_Templates.xml</code> file:</p> <pre><-- <template primary='BSM_DB2Database' > <othertemplate name='SCR_RetrieveDependentObjectsTemplate' /> <othertemplate name='SCR_ServiceComponentRawStatusTemplate' /> <othertemplate name='BSM_Database' /> <othertemplate name='BSM_Application' /> <cdmclass name='cdm:app.db.db2.Db2Database' /> </template> --></pre> <p>Note: For version 6.1 of TBSM the following additional steps are required to first export the file for editing and then to import it after you are done removing the comments from the above section:</p> <ul style="list-style-type: none">• To extract the file from the TBSM artifact store use the getArtifact command• To import the edited file back into the system use the putArtifact command.• To apply the changes use the utils.sh command.
You have completed all the installation and configuration task for the DB2 agent. You then start the agent and find that some HADR related attributes are not available. For example attributes accessible through the Database Table workspace.	There is no solution to this problem at this time.
When you edit the configuration for an existing monitoring agent, the values displayed are not correct.	The original configuration settings might include non-ASCII characters. These values were stored incorrectly and result in the incorrect display. Enter new values using only ASCII characters.

Table 7. Agent problems and solutions for the DB2 agent (continued)

Problem	Solution
Column names have different formats in table views for the DB2 agent.	Some attributes for the DB2 agent have length restrictions that cause the short column name to be used if the modified column name becomes too long.
<p>A problem can arise when you run multiple agents on one computer and want them to communicate with multiple monitoring servers, as described in this example:</p> <ul style="list-style-type: none"> Agents are running on a computer and communicating with a Tivoli Enterprise Monitoring Server, called TEMS1. You install a new agent on the same computer and you want this agent to communicate with a different monitoring server, called TEMS2. When you configure the new agent to communicate with TEMS2, all the existing agents are re-configured to communicate with TEMS2. 	<p>You must reconfigure the previously existing agents to restore their communication connection with TEMS1. For example, you can right-click the row for a specific agent in the Manage Tivoli Enterprise Monitoring Services, and select Reconfigure. See the <i>IBM Tivoli Monitoring Installation and Setup Guide</i> for more information on reconfiguration.</p> <p>If you plan to install and run multiple instances of the DB2 agent on one computer, these instances can use the same network interface, because they run as different processes.</p> <p>However, if you want to have two DB2 agent instances on the same computer or want to run two instances of each agent, install two-network adapters. Each instance is configured for the host-specific address so they can be recognized in the configuration settings.</p>
The DB2 agent is installed and running normally. After rebooting the computer where the Tivoli Enterprise Monitoring Server was running, or restarting the system that hosts the Tivoli Enterprise Monitoring Server, the agent is not online. However, when you use <code>CandleAgent start</code> , the agent starts and continues running.	<p>This problem can occur when the agent is installed locally using a non-root user, or when the agent is installed remotely using the Run As option on the GUI or using the <code>_UNIX_STARTUP_ .Username</code> option on the tacmd addSystem command line.</p> <p>Verify whether you have used a non-root user to install the DB2 agent.</p> <p>Manually start the DB2 agent using the correct user ID.</p> <p>For more information, see "Upgrading and restarting the agent by using non-root" in the Installation and Configuration Guide for the DB2 agent.</p>
<p>You receive the following error when stopping the DB2 agent when running with a local non-root UID on a UNIX or Linux Server:</p> <pre>./itmcmd agent -o db2itm61 stop ud Stopping agent... Unable to stop agent or process... PID: 10642 attempt return code: 2</pre>	<p>This message indicates that the UID that you are using does not have the necessary operating system privileges to stop the DB2 agent. Change to the UID that is running the DB2 agent, and run the stop command again. Use the following command on the UNIX or Linux Server:</p> <pre>install_dir/bin/cinfo -r</pre> <p>Use the UID that is returned as logged into the UNIX or Linux server to stop the DB2 agent.</p> <p>for more information, see "Permissions for starting and stopping the DB2 agent on UNIX and Linux systems" in the Installation and Configuration Guide for the agent.</p>

Table 7. Agent problems and solutions for the DB2 agent (continued)

Problem	Solution
<p>A configured and running instance of the DB2 agent is not displayed in the Tivoli Enterprise Portal, but other instances of the DB2 agent on the same system are displayed in the portal.</p>	<p>Tivoli Monitoring products use Remote Procedure Call (RPC) to define and control product behavior. RPC is the mechanism that allows a client process 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 desired protocol (or delivery mechanism) for RPCs.</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 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 $N=\{1, 2, \dots, 15\}$ for a non-Tivoli Enterprise Monitoring Server. 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 that 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) provided that each Tivoli Enterprise Monitoring Server on that image reports to a different HUB. By definition, there is one Tivoli Enterprise Monitoring Server HUB per monitoring Enterprise, so this architecture limit has been simplified to one Tivoli Enterprise Monitoring Server per system image.</p> <p>No more that 15 IP.PIPE processes or address spaces can be active on a single system image. With the first limit expressed above, this second limitation refers specifically to Tivoli Enterprise Monitoring Agent processes: no more that 15 agents per system image.</p> <p>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 EPHEMERAL IP.PIPE. (This is IP.PIPE configured with the 'EPHEMERAL:Y' keyword in the KDC_FAMILIES / KDE_TRANSPORT environment variable). There is no limitation to the number of ephemeral IP.PIPE connections per system image. 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.)</p>

Table 7. Agent problems and solutions for the DB2 agent (continued)

Problem	Solution
<p>Agent unable to connect: The agent is started, but no reports are displayed on Tivoli Enterprise Monitoring Server. The log file includes the following error:</p> <pre>Unable to find running CMS on CMSLIST or Endpoint unavailable</pre>	<p>This error message means that the agent is not able to connect to the computer where the Tivoli Enterprise Monitoring Server is running. The reason might be any one of the following reasons:</p> <p>Computer where the Tivoli Enterprise Monitoring Server is running is down</p> <p>Ping the computer where the Tivoli Enterprise Monitoring Server is running and make sure that it is up and running.</p> <p>Tivoli Enterprise Monitoring Server is not running</p> <p>If the Tivoli Enterprise Monitoring Server is not running, recycle the Tivoli Enterprise Monitoring Server and verify whether the agent is connecting.</p> <p>Multiple NIC Cards on the computer where the Tivoli Enterprise Monitoring Server is running.</p> <p>If multiple NICs are installed on the computer where the Tivoli Enterprise Monitoring Server is running, identify the Primary NIC and use the <i>hostname</i> or IP address.</p> <p>Verify that the Tivoli Enterprise Monitoring Server has been configured with the IP address or <i>hostname</i> of the Primary NIC.</p> <p>If you are using <i>hostname</i>, make sure that <i>/etc/hosts</i> has a valid entry for the host name and IP address of the Primary NIC.</p> <p>On the Tivoli Enterprise Monitoring Server set the <i>KDCB0_HOSTNAME</i> variable to the primary IP address of the computer. Use the same address to configure the agent.</p> <p>To connect to the Tivoli Enterprise Monitoring Server, configure the agent with the IP address of the Primary NIC or host name of the computer where the Tivoli Enterprise Monitoring Server is running.</p> <p>While configuring the agent, make sure that the port number that you are connecting to is correct. If you are not using the default port number, make sure that you are using the same port number used in Tivoli Enterprise Monitoring Server.</p> <p>For more information, see the <i>IBM Tivoli Monitoring Installation and Setup Guide</i>.</p> <p>Agent is behind the Firewall</p> <p>If you use a Firewall, identify whether you have any one of the following scenarios:</p> <ul style="list-style-type: none"> • Hub monitoring server INSIDE, and agents OUTSIDE • Hub and remote monitoring servers INSIDE, agents OUTSIDE • Hub monitoring server INSIDE, remote monitoring server, and agents OUTSIDE <p>For information about the <i>KDC_PARTITION</i> file that enables communication across a firewall, see "Creating a firewall partition file" in Table 3 on page 15. For more information, see the <i>IBM Tivoli Monitoring Installation and Setup Guide</i>.</p> <p>Connecting to the monitoring server through a Virtual Private Network (VPN)</p> <p>In some cases, the agent or a remote monitoring server needs to connect to the hub monitoring server through a VPN. You must configure the communication channel (pipe) to be ephemeral, as in the following example:</p> <pre>KDC_FAMILIES=ip.pipe port:port_number ephemeral:y ip use:n sna use:</pre>

Table 7. Agent problems and solutions for the DB2 agent (continued)

Problem	Solution
When there are multiple instances of the DB2 agent in the Tivoli Enterprise Portal, the status of the DB2 Server for instances other than the first one is shown as "InactiveBusy", and very little data is displayed in the other workspaces.	For the DB2 agent to collect data for all of your databases, you must catalog all of the databases for all of your instances.
Attributes do not allow non-ASCII input in the Situation Editor.	None. Any attribute that does not include "(Unicode)" might support only ASCII characters. For example, "Attribute (Unicode)" supports unicode, but "Attribute" without "(Unicode)" might only support ASCII characters.
Tivoli Enterprise Console events from IBM Tivoli Monitoring V6.2 for IBM Tivoli Monitoring v5.x migrated situations have parsing errors in the IBM Tivoli Monitoring server.	<ol style="list-style-type: none"> 1. Ensure that you have IBM Tivoli Monitoring V6.2 Event Synchronization installed on your Tivoli Enterprise Console server. 2. Obtain updated baroc files from the DB2 agent events. The following updated baroc files are in Tivoli Enterprise Monitoring Server in <i>install_dir/CMS/TECLIB/itm5migr</i>: <ul style="list-style-type: none"> • DB2_Event.baroc • DB2Agents.baroc • DB2ApplyReplication.baroc • DB2BufferPool.baroc • DB2BufferPoolExtStorage.baroc • DB2CatalogCache.baroc • DB2CpuUtilization.baroc • DB2Cursor.baroc • DB2DatabaseStatus.baroc • DB2DirectIO.baroc • DB2FCMActivity.baroc • DB2HostThroughput.baroc • DB2InstanceStatus.baroc • DB2Locks.baroc • DB2LockWaits.baroc • DB2Logging.baroc • DB2PackageCache.baroc • DB2ReplicationCapture.baroc • DB2SAPTablespaceUsageStatus.baroc • DB2Sorts.baroc • DB2SQLStatementActivity.baroc • DB2TableApplyReplication.baroc
You are receiving Tivoli Business Service Manager events that cannot be associated because application_oid and application_class are not set.	This problem is caused by IBM Tivoli Monitoring V6.2 sending Tivoli Enterprise Console events for IBM Tivoli Monitoring 5.x migrated situations. These events are not able to set the cited slot values. Replace the DB2_send_to_TBsm.sh script on the Tivoli Enterprise Console server with the version of this file from the Tivoli Enterprise Monitoring Server in <i>install_dir/CMS/TECLIB/itm5migr</i> .

Table 7. Agent problems and solutions for the DB2 agent (continued)

Problem	Solution
From the Tivoli Enterprise Portal, stop an agent instance that was started with the DB2 instance owner, and start the agent instance again, the agent is running with the root user ID instead of the DB2 instance owner.	Follow the reconfiguration steps in the "Reconfiguration, Remote" procedure in the Installation and Configuration Guide for the agent to change the user ID with which the agent instance runs to the DB2 instance owner. Recycle the agent instance for the changes to take effect.
<p>In the kudagent log file, the following message is repeatedly displayed:</p> <pre>(4AAE723A.0000-4:khdxhist.cpp, 3673,"readAheadRow") History file </opt/IBM/ITMIST/li6263/ud/hist/ db2inst8/KUDDIAGLOG.OLD> error - last row is truncated, expected 1705 bytes, read 342 bytes, retries = 0. (4AAE723A.0001-4:khdxhist.cpp,2642 ,"copyHistoryFile") Found 1 corrupted rows for "KUDDIAGLOG". Rows were skipped during copying. (4AAE723A.0002-4:kraahbin.cpp, 498,"WriteRow") Samples = 10, timestamp = 1090914123636 (4AAE723A.0003-4:kraahbin.cpp, 530,"WriteRow") Wrote 1 rows history data, UADVISOR_KUD00_KUDDIAGLOG KUD00.KUDDIAGLOG, <3633327809,2452621247></pre> <p>Check the size of the KUDDIAGLOG historical file, and the file size exceeds the file size limitation of the file system. For example, 2G on xLinux RH4. This problem also causes high CPU usage, and might lead to agent crash.</p>	<p>Do the following steps to solve this problem:</p> <ol style="list-style-type: none"> 1. Remove the historical file whose size exceeds the file size limitation. 2. Change the history collection configuration to reduce the historical file size: <ul style="list-style-type: none"> • Change the value of the Collection Interval attribute to a larger collection interval. This can be used to reduce the amount of data that is kept on disk by collecting less historical data. For example, from the default value of 15 minutes to 1 hour. • Change the value of the Warehouse Interval attribute to a shorter retention period. This can be used to reduce the amount of data that is kept on disk after a successful upload to the warehouse is performed. For example, from the default value of 1 day to 1 hour.
The DB2 agent on a UNIX or Linux system does not automatically start when the UNIX or Linux system reboots.	<p>The problem occurs because the line that is used to start the agent is missing from the start up file. To solve this problem, add the following line in the start up file:</p> <pre>/usr/bin/su - dbinstancename -c "ITM_InstalDir/bin/itmcmd agent [-h ITM_InstalDir] -o dbinstancename start ud"</pre>
32 bit DB2 agents cannot be started on a 64 bit AIX® 5.3 TL5 system, and a core dumping occurs in the \$CANDLEHOME/tmp directory.	<p>To solve this problem, upgrade the libc fileset to version 5.3.8.1 or later.</p> <p>If you do not want to upgrade the libc fileset, see the optional solution at http://www-01.ibm.com/support/docview.wss?rs=654&context=SSTFYB&dc=DB560&dc=DB520&uid=swg21366661&loc=en_US&cs=UTF-8&lang=en&rss=ct654tivoli</p>

Table 7. Agent problems and solutions for the DB2 agent (continued)

Problem	Solution
<p>The DB2 agent fails to monitor 64 bit DB2 databases on Windows systems, and the following error is found:</p> <pre>(iradb2agentmain.cpp,236, "LoadDb2Version") WARNING!!!Windows Registry reading of Version value failed!!</pre>	<p>This problem occurs because the DB2 registry settings are not correct.</p> <p>To solve this problem, set the registry setting of the HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\IBM\DB2 entry to "DB2INSTPROF"="C:\DOCUMENTS AND SETTINGS\ALL USERS\APPLICATION DATA\IBM\DB2\DB2"</p>
<p>You have chosen to install the DB2 Agent on a windows 64 bit machine in a directory other than the default directory. You attempt to open the Agent log and the following message is displayed:</p> <pre>4DE4524F.0005-A94:kudprop.cpp,315 ,"CPropFile::needLoad") Property file C:\IBM\ITMIST\ TMAITM6_x64\ db2lib.properties does not exist or not accessible.: 2 No such file or directory.</pre>	<p>This problem occurs because the db2lib.properties file is missing from the <i>CandleHome</i>\TMAITM6_x64\ directory.</p> <p>To solve this problem create a new text file and name it <i>db2lib.properties</i>, and then place it in the <i>CandleHome</i>\TMAITM6_x64\ directory.</p>
<p>A memory leak occurs with a long-running DB2 agent.</p>	<p>The memory leak is for the DB2 server, and is caused when the monitored DB2 server is one of the following versions:</p> <ul style="list-style-type: none"> • DB2 V91 Fix Pack 7 • DB2 V95 Fix Pack 5 <p>Use a different version of the DB2 server to eliminate the memory leak.</p>
<p>You have configured a new instance of the DB2 instance to monitor a database instance. You then launch the Tivoli Enterprise Portal client to view workspace information. However when you try to open a workspace no data is displayed and instead a message window opens with the following error message:</p> <pre>SQL1097N The node name was not found in the node directory. SQLSTATE=42720'</pre> <p>The agent log also contains the same message.</p>	<p>This situation results when in the process of configuring the new agent instance you enter an incorrect name for the database instance that you would like to monitor. The agent therefore attempts to monitor a non existent database instance. To resolve this problem you must re-configure the agent instance and enter the correct database instance name.</p>
<p>Manual DB Scripts running steps are missing in the DB2 agent v7.1 Installation and Configuration Guide.</p>	<p>From TCR3.1, DB2 agent v7.1 TCR report has to be applied manually to work. Report installer provided by ITM623 no longer works on TCR3.1. Below actions should be taken manually which are supposed to be performed by report installer :</p> <ol style="list-style-type: none"> 1. Manually import report package from Web GUI -> instruction available in ITM63 Admin guide. 2. Run db scripts to create schema and dimension table -> instruction NOT found in either ITM/TCR or DB2 Agent user guide. 3. Manually create data source from Web GUI -> -> instruction available in ITM63 Admin guide.

Table 7. Agent problems and solutions for the DB2 agent (continued)	
Problem	Solution
Warning messages appears when upgrading DB2 Agent 7.1 on RHEL 7.3 : cut: fields and positions are numbered from 1 Try 'cut --help' for more information. CandleAgent failure: KCI0766E could not find arch "" in a JRE version file.	Currency support for RHEL 7.3 is provided from DB2 Agent 7.1.1. So, if DB2 Agent 7.1 was installed by running "setarch \$(uname -m) --uname-2.6" command prior to installation, this message will appear when upgrading to 7.1.1. However, this warning is harmless and expected. So, it can be ignored.
Cannot find 32 bit UD component after upgrading DB2 Agent 7.1 to 7.1.1 on 64 bit AIX platform.	Both 32 and 64 bit UD components were installed for DB2 Agent 7.1 on 64 bit AIX platform. From DB2 Agent 7.1.1 components are installed based on machine architecture. So, for 64 bit AIX platform, only 64 bit UD component will get upgraded to 7.1.1 and 32 bit component will be removed.
Agent configuration with instance owner fails in case of installation is secured by secureMain and agent configuration is done by root user for the first time. The agent configuration fails with following error: KCIIN0524E Error attempting to build a merge file java.io.FileNotFoundException: /opt/IBM/ITM/tmp/.ud.rc (Permission denied) KCIIN0230E Unable to prompt for input...	When installation is secured by secureMain, manually assign write permission to the owner and the db2 admin group for file .ud.rc.
When the Db2 agent is stopped abruptly, the watchdog process fails to start the Db2 agent.	Start the Db2 agent manually.

Tivoli Enterprise Portal troubleshooting

Table 8 on page 33 lists problems that might occur with the Tivoli Enterprise Portal. This chapter provides agent-specific troubleshooting information. See the *IBM Tivoli Monitoring Troubleshooting Guide* for general troubleshooting information.

Table 8. Tivoli Enterprise Portal problems and solutions	
Problem	Solution
Historical data collection is unavailable because of incorrect queries in the Tivoli Enterprise Portal.	<p>The column, Sort By, Group By, and First/Last functions are not compatible with the historical data collection feature. Use of these advanced functions will make a query ineligible for historical data collection.</p> <p>Even if data collection has been started, you cannot use the time span feature if the query for the chart or table includes any column functions 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>See the <i>IBM Tivoli Monitoring Administrator's Guide</i> for information about the Historical Data Collection function.</p>

Table 8. Tivoli Enterprise Portal problems and solutions (continued)	
Problem	Solution
When you use a long process name in the situation, the process name is truncated.	Truncation of process names in the portal display is the expected behavior. 64 bytes is the maximum name length.
In the Network Info workspace, the value of the listener port column is 0 or -1.	<p>Set the svcname parameter as <code>db2c_Instance</code> in the database manager configuration of the corresponding DB2 database instance. Where <i>Instance</i> is the name of the DB2 agent instance.</p> <p>Add the following line in the services file of the DB2 database instance:</p> <pre>db2c_Instance PortNumber/tcp</pre> <p>The services file is located at the following paths:</p> <ul style="list-style-type: none"> Windows systems: %SystemRoot%\system32\drivers\etc\services UNIX and Linux systems: /etc/services <p>After these changes take effect, the specified <i>PortNumber</i> is displayed in the Network Info workspace.</p>

Troubleshooting for remote deployment

Table 9 on page 34 lists problems that might occur with remote deployment. This section provides information about troubleshooting remote deployment of the DB2 agent. See the *IBM Tivoli Monitoring Troubleshooting Guide* for general troubleshooting information.

This section describes problems and solutions for remote deployment and removal of agent software Agent Remote Deploy:

Table 9. Remote deployment problems and solutions	
Problem	Solution
Remote deploying an instance of the agent on a Windows 64 bit system in a ITM623FP1 environment using the command line failed with the following error message: KDY0005E The component UD is not installed on AC. The Agent HOSTNAME bundle requires that this component be present for the installation to proceed.	<ol style="list-style-type: none"> On the TEMS machine where the DB2 agent bundle was added, add the KAC bundle version 062301000 into the TEMS depot from ITM 6.2.3 FP1 from the WINDOWS images. For example: <ul style="list-style-type: none"> TEMS on Windows : <pre>C:\IBM\ITM> tacmd addbundles -t AC -i C:\images\ITM623FP1\WINDOWS\Deploy</pre> TEMS on Linux : <pre>/opt/IBM/ITM/bin/tacmd addbundles -t AC -i /images/ITM623FP1/WINDOWS/Deploy</pre> (Optional) check if there is an orphaned process named SETUP . EXE running on the OS agent machine and kill the process. run the tacmd command to remote deploy the DB2 agent again.

Table 9. Remote deployment problems and solutions (continued)	
Problem	Solution
After upgrading the agent from version 6.22 fix pack 1 to version 7.1 on a Linux or a UNIX system, you restart remote instances of the agent which connect to ITM version 6.22 fix pack 2 components. The remote instances of the agent are restarted using the root ID which does not have the authority to connect to DB2 instances.	You have to define the correct user ID's for the agent instances in the kcirunas.cfg file. For more information, see http://publib.boulder.ibm.com/infocenter/tivihelp/v15r1/topic/com.ibm.itm.doc_6.2.3/itm623_install226.htm
While you are using the remote deployment feature to install DB2 agent, an empty command window is displayed on the target computer. This problem occurs when the target of remote deployment is a Windows computer. (See the <i>IBM Tivoli Monitoring Installation and Setup Guide</i> for more information on the remote deployment feature.)	Do not close or modify this window. It is part of the installation process and will be 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 happen when you attempt the remote removal process immediately after you have restarted the Tivoli Enterprise Monitoring Server. You must allow time for the DB2 agent to refresh its connection with the Tivoli Enterprise Monitoring Server before you begin the remote removal process.
You have configured and attempted to deploy a remote instance of the agent and the operation has failed. However the Agent Event workspace does not display information explaining why the deployment operation failed.	<p>There are a number of reasons that could result in this problem, to solve the problem you can attempt the following:</p> <ul style="list-style-type: none"> • On Unix or Linux systems, verify that the DB2 instance to be monitored and the username entered as the DB2 instance owner under Run As both exist on the remote machine. • On Windows systems, verify that you are not trying to deploy a 32 bit agent instance to monitor a 64 bit DB2 instance and that no agent instance of the same name is already deployed to the remote machine. <p>If this problem persists, check the ITM logs for more information.</p>

Workspace troubleshooting

Table 10 on page 35 shows problems that might occur with workspaces. This chapter provides agent-specific troubleshooting information. See the *IBM Tivoli Monitoring Troubleshooting Guide* for general troubleshooting information.

Table 10. Workspace problems and solutions	
Problem	Solution
The name of the attribute does not display in a bar chart or graph view.	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 there is sufficient space to display all characters of the attribute's name.

Table 10. Workspace problems and solutions (continued)	
Problem	Solution
At the bottom of each view, you see the following Historical workspace KFWITM220E error: Request failed during execution	Ensure that you configure all groups that supply data to the view. In the Historical Configuration view, ensure that data collection is started for all groups that supply data to the view.
You start collection of historical data but the data cannot be seen.	<p>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. See "Agent-specific installation and configuration for the monitoring agent" in the Installation and Configuration Guide for the agent for information about managing this feature, including how to set the interval at which data is collected. By setting a more frequent interval for data collection you reduce the load on the system incurred every time data is uploaded. • You use the Summarization and Pruning monitoring agent to collect specific amounts and types of historical data. Be aware that historical data is not displayed until the Summarization and Pruning monitoring agent begins collecting the data. By default, this agent begins collection at 2 AM daily. At that point, data is visible in the workspace view. See the IBM Tivoli Monitoring Administrator's Guide to learn how to modify the default collection settings.
No data is displayed in the Database workspace.	The Database workspace only shows the active databases, which are the databases for which an active connection exists. The live external connection might be the result of an application connecting or the result of a db2 connect. Also, monitoring only occurs for active databases. When the connection becomes inactive, the database disappears from the Database workspace, and monitoring stops for this database.
DB2 workspaces become empty with a busy hourglass for a while, when the DB2 agent is monitoring a partitioned DB2 database.	<p>This problem occurs because a DB2 partition is unavailable, and there is DB2 time-out and retry activities.</p> <p>When a partition is unavailable, the duration after which the error status is returned is determined by the Fast Communications Manager (FCM) settings, which include the max_connretries parameter (Node connection retries) with the default value of 5 retries, and the conn_elapse parameter (Connection elapse time) with the default value of 10 seconds. When the default values of the two parameters are used, there is a 50-second delay for each DB2 API call while there are a lot of API requests for the agent to make. In this period of time, the workspaces are empty with a busy hourglass.</p> <p>To reduce the empty workspace time, you can set a smaller value for the max_connretries parameter or the conn_elapse parameter.</p>

Table 10. Workspace problems and solutions (continued)	
Problem	Solution
<p>If Customized SQL query contains the "order by" clause, then the relevant workspace does not show data and the DB2 server logs the following error in log file.</p> <p>The statement or command failed because it requires functionality that is not supported on a read-enabled HADR standby database. Reason code = "5".</p>	<p>DB2 v11.1.0.0 server, or below does not support order by clause on standby. Hence DB2 agent cannot collect data for customized SQL workspace.</p> <p>To overcome this problem upgrade to DB2 v11.1.2.2 server that provides support for "order by" clause on standby. For more information, see http://www-01.ibm.com/support/docview.wss?uid=swg1IT22612</p>
<p>The Diagnostic Messages workspace for the DB2 Diagnostic Log attribute group displays timestamps as date and time string instead of date and time format.</p> <p>For example, it displays 117111619015600 instead of 11/16/2017 19:01:56.</p>	<p>No workaround available for this problem currently.</p> <p>The date and time string can be interpreted as: 117111619015600 - YYYYMMDDhhmmss</p>

Situation troubleshooting

This section provides information about both general situation problems and problems with the configuration of situations. See the *IBM Tivoli Monitoring Troubleshooting Guide* for more information about troubleshooting for situations.

Situation troubleshooting

Problems can occur with situations and situation configuration.

Table 11 on page 37 contains problems and solutions for situations.

Table 11. 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 8. For example, trace logs grow rapidly when you apply the ALL logging option.
Monitoring activity requires too many system resources.	See the information about disk capacity planning for historical data in the Reference guide for the agent for a description of 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: LT #'Linux_VM_Stats.Total_Memory' / 10	<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 11. 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 KpcENV file for the agent (where <i>pc</i> is the two-letter product code):</p> <p>CDP_NT_EVENT_LOG_CACHE_TIMEOUT=3600</p> <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.	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> .
The monitoring interval is too long.	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.
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.	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.
An Alert event did not occur even though the predicate was correctly specified.	Check the logs, reports, and workspaces.

Table 11. Situation problems and solutions (continued)

Problem	Solution
A situation fires on an unexpected managed object.	Confirm that you distributed and started the situation on the correct managed system.
The product did not distribute the situation to a managed system.	Click the Distribution tab and check the distribution settings for the situation.
The situation does not fire.	<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"> Click the fx icon in the Formula area. The Show formula window is displayed. <ol style="list-style-type: none"> 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. (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. Click OK to dismiss the Show formula window. (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>
Situation events are not displayed in the Events Console view of the workspace.	<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>

Table 11. Situation problems and solutions (continued)

Problem	Solution
You do not have access to a situation.	<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.
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.

Consider performance impact of each attribute group

Table 12 on page 40 lists the impact on performance (high, medium, or low) of each attribute group. The multiple-instance attributes have been classified at the lowest level. That is, the performance overhead will increase if you do not specify compare values for one or more key values.

When you want to prevent impact on performance by any of the attribute groups listed in Table 12 on page 40 you must avoid referencing that attribute group, as suggested in this list:

- Disable the attribute group.
- Never select workspaces that reference the attribute group.
- Disable situations that reference the attribute group by using the "Undistributed situations" option in the Situation Editor.
- Disable historical reporting that references the attribute group.
- Avoid using the "Auto Refresh" refresh feature in a Workspace because this option causes a refresh of data for all attribute groups.

See the *IBM Tivoli Monitoring User's Guide* for additional information on controlling attribute group usage.

Table 12. Performance impact by attribute group

Attribute group	High	Medium	Low
Application00 (KUD_DB2_Application00)	✓		
Application00 (KUDDDB2APPLGROUP00) (Superseded)	✓		
Application00U (KUDDDB2APPLGROUP00_U) (Superseded)	✓		
Application01 (KUD_DB2_Application01)	✓		

Table 12. Performance impact by attribute group (continued)			
Attribute group	High	Medium	Low
Application01 (KUDDDB2APPLGROUP01) (Superseded)	✓		
Apply Program (KUD_DB2_Apply_Program)		✓	
Apply Subscription (KUD_DB2_Apply_Subscription)		✓	
Buffer Pool (KUD_DB2_Buffer_Pool)		✓	
Buffer Pool (KUDBUFFERPOOL00) (Superseded)		✓	
Database00 (KUD_DB2_Database00)	✓		
Database00 (KUDDBASEGROUP00) (Superseded)	✓		
Database01 (KUD_DB2_Database01)	✓		
Database01 (KUDDBASEGROUP01) (Superseded)	✓		
Database02 (KUD_DB2_Database02)	✓		
DCS Database (KUD_DB2_DCS_Database)			✓
Diagnostic Log (KUD_DB2_Diagnostic_Log)			✓
Diagnostic Messages (KUD_DB2_Diagnostic_Messages) (Superseded)			✓
Locking Conflict (KUDLOCKCONFLICT00)		✓	
Log (KUD_DB2_LOG)	✓		
Log Record (KUD_DB2_LOG_RECORD)		✓	
Network Info (KUD_DB2_IPADDR_TABLE)			✓
System Overview (KUD_DB2_System_Overview)		✓	
System Overview (KUDINFO00) (Superseded)		✓	
System Resources (KUD_DB2_System_Resources)			✓
Table (KUD_DB2_Table)	✓		
Tablespace (KUD_DB2_Tablespace)		✓	
Tablespace (KUDTABSPACE) (Superseded)		✓	

Problems with configuration of situations

Table 13 on page 42 lists problems that might occur with situations.

This section provides information for troubleshooting for agents. Be sure to consult the *IBM Tivoli Monitoring Troubleshooting Guide* for more general troubleshooting information.

Table 13. Problems with configuring situations that you solve in the Situation Editor	
Problem	Solution
<p>Remember: To get started with the solutions in this section, perform these steps:</p> <ol style="list-style-type: none"> 1. Launch the Tivoli Enterprise Portal. 2. Click Edit > Situation Editor. 3. In the tree view, choose the agent whose situation you want to modify. 4. Choose the situation in the list. The Situation Editor view is displayed. 	
The situation for a specific agent is not visible in the Tivoli Enterprise Portal.	Open the Situation Editor. Access the All managed servers view. If the situation is absent, confirm that application support for DB2 agent has been added to the monitoring server. If not, add application support to the server, as described in the <i>IBM Tivoli Monitoring Installation and Setup Guide</i> .
The monitoring interval is too long.	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 needed.
The situation did not activate at startup.	<p>Recycle the situation as follows:</p> <ol style="list-style-type: none"> 1. Right-click the situation and choose Stop Situation. 2. Right-click the situation and choose Start Situation. <p>Tip: You can permanently avoid this problem by placing a check mark in the Run at Startup option of the Situation Editor view for a specific situation.</p>
The situation is not displayed.	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.
An Alert event has not occurred even though the predicate has been properly specified.	Check the logs, reports, and workspaces.
A situation fires on an unexpected managed object.	Confirm that you have distributed and started the situation on the correct managed system.
The product did not distribute the situation to a managed system.	Click the Distribution tab and check the distribution settings for the situation.

Table 13. Problems with configuring situations that you solve in the Situation Editor (continued)	
Problem	Solution
<p>The situation does not fire.</p> <p>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"> Click the fx icon in the upper-right corner of the Formula area. The Show formula window is displayed. <ol style="list-style-type: none"> Confirm the following details in the Formula area at the top 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 numerical values in the formula match your monitoring goal. (Optional) Click the Show detailed formula check box in the lower left of the window to see the original names of attributes in the application or operating system that you are monitoring. Click OK to dismiss the Show formula window. (Optional) In the Formula area of the Formula tab, temporarily assign numerical values that will immediately trigger a monitoring event. The triggering of the event confirms that other predicates in the formula are valid. <p>Remember: After you complete this test, you must restore the numerical values to valid levels so that you do not generate excessive monitoring data based on your temporary settings.</p>

Table 14. Problems with configuration of situations that you solve in the Workspace area	
Problem	Solution
Situation events are not displayed in the Events Console view of the workspace.	<p>Associate the situation with a workspace.</p> <p>The situation does not need to be displayed in the workspace. It is sufficient that the situation is associated with any workspace.</p>
You do not have access to a situation.	<p>Important: You must have administrator privileges to perform these steps.</p> <ol style="list-style-type: none"> Select Edit > Administer Users to access the Administer Users window. In the Users area, select the user whose privileges you want to modify. In the Permissions tab, Applications tab, and Navigator Views tab, select the permissions or privileges that correspond to the user's role. Click OK.
A managed system seems to be offline.	<ol style="list-style-type: none"> Select Physical View and highlight the Enterprise Level of the navigator tree. Select View > Workspace > Managed System Status to see a list of managed systems and their status. If a system is offline, check network connectivity and status of the specific system or application.

Table 15. Problems with configuration of situations that you solve in the Manage Tivoli Enterprise Monitoring Services window

Problem	Solution
After an attempt to restart the agents in the Tivoli Enterprise Portal, the agents are still not running.	For UNIX, NetWare, or Windows systems, log on to the applicable system and perform the appropriate queries.
The Tivoli Enterprise Monitoring Server is not running.	Check the system status and check the appropriate IBM Tivoli Monitoring logs.
The managed objects you created are firing on incorrect managed systems.	Check the managed system distribution on both the situation and the managed object settings sheets.
For agents that can have multiple subnodes, such as database agents:	
The icon is incorrect.	Check the icon assignments in the template.
The situation is not assigned to a state in the template.	Check the situation assignments in the template of the associated managed object.
You assigned the situation to an incorrect state in the template.	Check the State settings sheet for the template.

Take Action command troubleshooting

Table 16 on page 44 lists general problems that might occur with Take Action commands. When each Take Action command runs it generates the log file listed in “Principal trace log files” on page 4. This chapter provides agent-specific troubleshooting information. See the *IBM Tivoli Monitoring Troubleshooting Guide* for general troubleshooting information.

Table 16. Take Action commands problems and solutions

Problem	Solution
Some Take Action commands require several minutes to complete.	Allow several minutes. If you do not see a pop-up message advising you of completion, try to run the command manually. Consult the log file for the Take Action command, <i>name</i> .log, where <i>name</i> is the name of the Take Action command.
Take Action commands work only when all the argument values are specified.	Set the values of the arguments that you do not need as None. Do not left any argument value blank.

Chapter 4. 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) (<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) (<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) (<http://www.ibm.com/software/support/isa>).

Chapter 5. Informational, warning, and error messages overview

Messages relay information about how the system or application is performing and can alert you to exceptional conditions when they occur.

Messages are sent to an output destination, such as a file, database, or console screen.

If you receive a warning or error message, you can do one of the following actions:

- Follow the instructions listed in the Detail window of the message if this information is included there.
- Consult the message details listed in this topic to see what action you can take to correct the problem.
- Consult the message log for message ID, text, time, and date of the message, as well as other data you can use to diagnose the problem.

Message format

The message format contains a message ID and text, an explanation, and an operator response.

Agent messages have the following format:

Message ID and text
Explanation
Operator Response

The message ID has the following format:

```
CCC###severity
```

where:

CCC

Prefix that indicates the component to which the message applies. The following components are used:

KXX

Three-character product code for the agent.

####

Number of the message

severity

Severity of the message. Three levels of severity are used:

I

Informational messages provide feedback about something that happened in the product or system that might be important. These messages can provide guidance when you are requesting a specific action from the product.

W

Warning messages call your attention to an exception condition. The condition might not be an error but can cause problems if not resolved.

E

Error messages indicate that an action cannot be completed because of a user or system error. These messages require user response.

The *Text* of the message provides a general statement regarding the problem or condition that occurred. The *Explanation* provides additional information about the message and the possible cause for the condition. The *Operator Response* provides actions to take in response to the condition, particularly for error messages (messages with the "E" suffix).

Note: Many message texts and explanations contain variables, such as the specific name of a server or application. Those variables are represented in this topic as symbols, such as "&1." Actual messages contain values for these variables.

Appendix A. ITCAM for Applications documentation library

Various publications are relevant to the use of ITCAM for Applications.

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) (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.

Documentation for this product is in the [ITCAM for Applications Information Center](http://publib.boulder.ibm.com/infocenter/tivihelp/v24r1/topic/com.ibm.itcama.doc_7.2.1/welcome_apps721.html) (http://publib.boulder.ibm.com/infocenter/tivihelp/v24r1/topic/com.ibm.itcama.doc_7.2.1/welcome_apps721.html):

- Quick Start Guide
- Offering Guide
- Download instructions
- Links to Prerequisites
- Installation and Configuration Guide for each agent
- Link to Reference information for each agent
- Link to Troubleshooting Guide for each agent

Prerequisite publications

To use the information about the agents effectively, you must have some prerequisite knowledge.

See the following information at the [IBM Tivoli Monitoring Information Center](http://pic.dhe.ibm.com/infocenter/tivihelp/v61r1/index.jsp) (<http://pic.dhe.ibm.com/infocenter/tivihelp/v61r1/index.jsp>) to gain prerequisite knowledge:

- *IBM Tivoli Monitoring Administrator's Guide*
- *IBM Tivoli Monitoring Installation and Setup Guide*
- *IBM Tivoli Monitoring High Availability Guide for Distributed Systems*
- IBM Tivoli Monitoring: Installation and Configuration Guides for the following agents: Operating System agents and Warehouse agents
- IBM Tivoli Monitoring: User's Guides for the following agents: Agentless OS monitors, Log file agent, System p agents, Systems Director base agent
- *IBM Tivoli Monitoring Agent Builder User's Guide*
- *IBM Tivoli Monitoring Command Reference*
- *IBM Tivoli Monitoring: Messages*
- *IBM Tivoli Monitoring Troubleshooting Guide*
- IBM Tivoli Monitoring: References for the following agents: Operating System agents and Warehouse agents
- IBM Tivoli Monitoring: Troubleshooting Guides for the following agents: Operating System agents and Warehouse agents
- *Tivoli Enterprise Portal 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](https://www.ibm.com/developerworks/community/wikis/home?lang=en#!/wiki/Tivoli%20Documentation%20Central) (<https://www.ibm.com/developerworks/community/wikis/home?lang=en#!/wiki/Tivoli%20Documentation%20Central>):

- Tivoli Monitoring
- Tivoli Application Dependency Discovery Manager
- Tivoli Business Service Manager
- Tivoli Common Reporting
- Tivoli Enterprise Console
- Tivoli Netcool/OMNIBus

Tivoli Monitoring Community on Service Management Connect

Service Management Connect (SMC) is a repository of technical information that is organized by communities.

Access Service Management Connect at <https://www.ibm.com/developerworks/servicemanagement>.

For information about Tivoli products, see the [Application Performance Management community](http://www.ibm.com/developerworks/servicemanagement/apm/index.html) (<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 other users and IBM developers of Tivoli products. You can access early designs, sprint demonstrations, product roadmaps, and prerelease code.
- Connect one-on-one with the experts to collaborate and network about Tivoli and the Application Performance Management community.
- Read blogs to benefit from the expertise and experience of others.
- Use wikis and forums to collaborate with the broader user community.

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:

- [IBM Integrated Service Management Library](http://www.ibm.com/software/brandcatalog/ismlibrary/) (<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/) (<http://www.redbooks.ibm.com/>) include Redbooks® publications, Redpapers, and Redbooks technotes that provide information about products from platform and solution perspectives.
- [Technotes](http://www.ibm.com/support/entry/portal/software) (<http://www.ibm.com/support/entry/portal/software>), which are found through the IBM Software Support website, provide the latest information about known product limitations and workarounds.

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