

IBM Tivoli Composite Application Manager Agent for SAP  
Applications  
7.1.1 Fix Pack 6

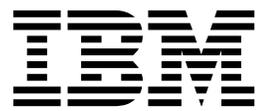
*Troubleshooting Guide*

**IBM**



IBM Tivoli Composite Application Manager Agent for SAP  
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7.1.1 Fix Pack 6

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**Note**

Before using this information and the product it supports, read the information in "Notices" on page 31.

This edition applies to version 7.1.1.6 of IBM Tivoli Composite Application Manager Agent for SAP Applications (product number XXXXX) 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 27.

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>).

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

- “Gathering product information for IBM Software Support”
- “Using logging” on page 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.

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> .
SAP Solman information	Version number and patch level
Operating system	Operating system version number and patch level
Messages	Messages and other information displayed on the screen
Version numbers for IBM Tivoli Monitoring	Version number of the following members of the monitoring environment: <ul style="list-style-type: none"><li>• IBM Tivoli Monitoring. Also provide the patch level, if available.</li><li>• SAP agent</li></ul>
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
- Discovery Library Adapter
- Tivoli Common Reporting

See Chapter 3, “Problems and workarounds,” on page 13 for information about symptoms and detailed workarounds for these types of problems.

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

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## Chapter 2. Trace logging

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

The principal log type is the RAS (Reliability, Availability, and Serviceability) trace log. These logs are in the English language only. The RAS trace log mechanism is available for all components of IBM Tivoli Monitoring. Most logs are in a logs subdirectory on the host computer. See the following information to learn how to configure and use trace logging:

- “Overview of log file management”
- “Principal trace log files” on page 4
- “Examples: Using trace logs” on page 6
- “RAS trace parameters” on page 7
- “Dynamic modification of trace settings” on page 8
- “Setting trace parameters for the Tivoli Enterprise Console server” on page 11

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

IBM Software Support personnel use the information captured by trace logging to trace a problem to its source or to determine why an error occurred. All components in the IBM Tivoli Monitoring environment have a default tracing level. The tracing level can be changed on a per-component level to adjust the type of trace information collected, the degree of trace detail, the number of trace logs to be kept, and the amount of disk space used for tracing.

---

### Overview of log file management

Knowing the naming conventions for log files helps you to find the files.

#### Agent log file naming conventions

Table 2 on page 4 provides the names, locations, and descriptions of IBM Tivoli Monitoring general RAS1 log files. The log file names for the SAP agent adhere to the following naming convention:

##### Windows systems

*hostname\_productcode\_program\_HEXtimestamp-nn.log*

##### Linux and UNIX systems

*hostname\_productcode\_program\_HEXtimestamp-nn.log*

Where:

##### *hostname*

Host name of the computer where the monitoring component is running.

##### *productcode*

Two-character product code. For IBM Tivoli Composite Application Manager Agent for SAP Applications, the product code is sa.

##### *program*

Name of the program being run.

##### *HEXtimestamp*

Hexadecimal time stamp representing the time at which the program started.

##### *nn*

Rolling log suffix.

## Principal trace log files

Trace log files are located on various systems.

Table 2 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"> <li>• <b>Windows:</b> The IBM Tivoli Monitoring <i>timestamp.log</i> file in the <i>install_dir\InstallITM</i> path</li> <li>• <b>UNIX:</b> The <i>candle_installation.log</i> file in the <i>install_dir/logs</i> path</li> <li>• <b>Linux:</b> The <i>candle_installation.log</i> file in the <i>install_dir/logs</i> path</li> </ul>	Provides details about products that are installed. <b>Note:</b> Trace logging is enabled by default. A configuration step is not required to enable this tracing.
On the Tivoli Enterprise Monitoring Server	The Warehouse_Configuration.log 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.
On the Tivoli Enterprise Monitoring Server	<p>The name of the RAS log file is as follows:</p> <ul style="list-style-type: none"> <li>• <b>Windows:</b> <i>install_dir\logs\hostname_ms_timestamp-<i>nn</i>.log</i></li> <li>• <b>UNIX:</b> <i>install_dir/logs/hostname_ms_timestamp-<i>nn</i>.log</i></li> <li>• <b>Linux:</b> <i>install_dir/logs/hostname_ms_timestamp-<i>nn</i>.log</i></li> </ul> <p><b>Note:</b> 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_sa_timestamp.log</i> and <i>hostname_sa_timestamp.pidnnnn</i> in the <i>install_dir/logs</i> path, where <i>nnnn</i> is the process ID number.</p>	Traces activity on the monitoring 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 name of the RAS log file is as follows:</p> <ul style="list-style-type: none"> <li>• <b>Windows:</b> <i>install_dir</i>\logs\<i>hostname_cq_HEXtimestamp-nn.log</i></li> <li>• <b>UNIX:</b> <i>install_dir</i>/logs/<i>hostname_cq_HEXtimestamp-nn.log</i></li> <li>• <b>Linux:</b> <i>install_dir</i> /logs/<i>hostname_cq_HEXtimestamp-nn.log</i></li> </ul> <p><b>Note:</b> 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_sa_timestamp.log</i> and <i>hostname_sa_timestamp.pidnnnn</i> in the <i>install_dir</i>/logs path, where <i>nnnnn</i> is the process ID number.</p>	Traces activity on the portal server.
On the Tivoli Enterprise Portal Server	<p>The teps_odbc.log file is located in the following path:</p> <ul style="list-style-type: none"> <li>• <b>Windows:</b> <i>install_dir</i>\Install\ITM</li> <li>• <b>UNIX:</b> <i>install_dir</i>/logs</li> <li>• <b>Linux:</b> <i>install_dir</i>/logs</li> </ul>	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> <p>These logs are in the following directories:</p>	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_SA.LG0</i> is the current log created when the agent is started.</p> <p><i>instance_hostname_SA.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>	<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"> <li>• Status of connectivity with the monitoring server</li> <li>• Situations that were running</li> <li>• The success or failure status of Take Action commands</li> </ul>

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

System where log is located	File name and path	Description
Definitions of variables:		
<ul style="list-style-type: none"> <li>• <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: <b>yyyymmdd hhmm</b></li> <li>• <i>HEXtimestamp</i> is a hexadecimal representation of the time at which the process was started.</li> <li>• <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.</li> <li>• <i>instance</i> refers to the name of the database instance that you are monitoring.</li> <li>• <i>instance_name</i> refers to the name of the agent instance.</li> <li>• <i>hostname</i> refers to the name of the computer on which the IBM Tivoli Monitoring component runs.</li> <li>• <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.</li> </ul>		

For more information about the complete set of trace logs that are maintained on the monitoring server, see the *IBM Tivoli Monitoring Installation and Setup Guide*.

## Examples: Using trace logs

You can open trace logs in a text editor to learn some basic facts about your IBM Tivoli Monitoring environment.

IBM Software Support applies specialized knowledge to analyze trace logs to determine the source of problems. The following examples are from the Tivoli Enterprise Monitoring Server log.

### Example one

This excerpt shows the typical log for a failed connection between a monitoring agent and a monitoring server with the host name **server1a**:

```
(Thursday, August 11, 2005, 08:21:30-{94C}kdc10c1.c,105,"KDCL0_ClientLookup") status=1c020006,
"location server unavailable", ncs/KDC1_STC_SERVER_UNAVAILABLE
(Thursday, August 11, 2005, 08:21:35-{94C}kraarreg.cpp,1157,"LookupProxy") Unable to connect to
broker at ip.pipe:: status=0, "success", ncs/KDC1_STC_OK
(Thursday, August 11, 2005, 08:21:35-{94C}kraarreg.cpp,1402,"FindProxyUsingLocalLookup") Unable
to find running CMS on CT_CMSLIST <IP.PIPE:#server1a>
```

### Example two

The following excerpts from the trace log *for the monitoring server* show the status of an agent, identified here as "Remote node." The name of the computer where the agent is running is **SERVER5B**:

```
(42C039F9.0000-6A4:kpxreqhb.cpp,649,"HeartbeatInserter") Remote node SERVER5B:SA is ON-LINE.
.
.
.
(42C3079B.0000-6A4:kpxreqhb.cpp,644,"HeartbeatInserter") Remote node SERVER5B:SA is OFF-LINE.
```

See the following key points about the preceding excerpts:

- The monitoring server appends the two-character product code to the server name to form a unique name (for example, SERVER5B:vm ) for this instance of the agent. By using this unique name, you can distinguish multiple monitoring products that might be running on **SERVER5B**.
- The log shows when the agent started (ON-LINE) and later stopped (OFF-LINE) in the environment.
- For the sake of brevity, an ellipsis (...) represents the series of trace log entries that were generated while the agent was running.
- Between the ON-LINE and OFF-LINE log entries, the agent was communicating with the monitoring server.

- The ON-LINE and OFF-LINE log entries are always available in the trace log. All trace levels that are described in “Setting RAS trace parameters by using the GUI” provide these entries.

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

1. In the Windows **Start** menu, click **Program Files > IBM Tivoli Monitoring > Manage Tivoli Enterprise Monitoring Services**. The Manage Tivoli Enterprise Monitoring Services window is displayed.
2. Right-click a component and click **Advanced > View Trace Log** in the menu. For example, if you want to view the trace log for the agent, right-click the name of that agent in the window. You can also use the viewer to access remote logs.

**Note:** The viewer converts time stamps in the logs to a format that is easier to read.

---

## RAS trace parameters

Pinpoint a problem by setting detailed tracing of individual components of the monitoring agent and modules

See “Overview of log file management” on page 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 SAP Applications 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**s. The Tivoli Enterprise Monitoring Server Trace Parameters window is displayed.
3. Select a new trace setting in the pull-down menu in the **Enter RAS1 Filters** field or type a valid string.
  - General error tracing. KBB\_RAS1=ERROR
  - Intensive error tracing. KBB\_RAS1=ERROR (UNIT:ksa ALL)
  - Maximum error tracing. KBB\_RAS1=ERROR (UNIT:ksa 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.

---

## 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
kdsre.j.c, 400, May 29 2007, 13:00:06, 1.5, KDH
kdhb1fh.c, 400, May 29 2007, 12:59:33, 1.1, KDH
```

```

kdhb1oe.c, 400, May 29 2007, 12:59:38, 1.2, KDH
kdhs1ns.c, 400, May 29 2007, 13:00:08, 1.3, KDH
kbbacd1.c, 400, May 29 2007, 12:54:27, 1.2, ACF1
kbbac1c.c, 400, May 29 2007, 12:54:27, 1.4, ACF1
kbbac1i.c, 400, May 29 2007, 12:54:28, 1.11, ACF1
vkdhscfn.c, 400, May 29 2007, 13:00:11, 1.1, KDH
kdhserq.c, 400, May 29 2007, 12:59:53, 1.1, KDH
kdhb1pr.c, 400, May 29 2007, 12:59:39, 1.1, KDH
kdhsgnh.c, 400, May 29 2007, 12:59:49, 1.1, KDH
kdh0uts.c, 400, May 29 2007, 12:59:23, 1.1, KDH
kdhsrsp.c, 400, May 29 2007, 13:00:13, 1.2, KDH
kdhs1rp.c, 400, May 29 2007, 13:00:12, 1.1, KDH
kdhscsv.c, 400, May 29 2007, 12:59:58, 1.9, KDH
kdebbac.c, 400, May 29 2007, 12:56:50, 1.10, KDE
...

```

## Turning on tracing

To use the tracing utility, you must use a local logon credential for the computer. This tracing method uses the IBM Tivoli Monitoring Service Console. Access the Service Console by using a web browser.

### About this task

When you start the Service Console, information is displayed about the components that are currently running on that computer. For example, these components are listed as follows:

- Tivoli Enterprise Portal Server: `cnp`
- Monitoring Agent for Windows OS: `nt`
- Tivoli Enterprise Monitoring Server: `ms`

After you log on, you can type a question mark (?) to display a list of the supported commands. Use the **ras1** command to modify trace settings. If you type this command in the field provided in the Service Console window and click **Submit**, the help for this command is displayed.

### Procedure

1. Open a web browser and enter the URL to access the Service Console.

```
http://hostname:1920
```

where *hostname* is the IP address or host name of the computer on which the IBM Tivoli Monitoring component is running.

2. Click the hyperlink associated with the component for which you want to modify its trace settings.

**Note:** In the previous view, if you want to modify tracing for the Tivoli Enterprise Monitoring Server, select **IBM Tivoli Monitoring Service Console** under **Service Point: system.your host name\_ms**.

3. Enter a user ID and password to access the system. This ID is any valid user that has access to the system.
4. Enter the command to turn on the required level of trace for the specified component classes or units.

```

ras1 set (UNIT|COMP: class_name ALL|Flow|ERROR|Detail|INPUT|Metrics|OUTPUT|STATE)
{(UNIT|COMP: class_name ALL|Flow|ERROR|Detail|INPUT|Metrics|OUTPUT|STATE)}

```

For example, to turn on the control flow trace for the KDE, the command is:

```
ras1 (COMP:KDE Flow)
```

## Turning off tracing

You can use the IBM Tivoli Monitoring Service Console to run the **ras1** command and dynamically turn off tracing.

## Procedure

1. Open a web browser and enter the URL to access the Service Console.

```
http://hostname:1920
```

where *hostname* is the IP address or host name of the computer on which the IBM Tivoli Monitoring component is running.

2. Click the hyperlink associated with the component for which you want to modify its trace settings.
3. Enter a user ID and password to access the system. This ID is any valid user that has access to the system.
4. Enter the command to turn off the required level of trace for the specified component classes or units.

```
ras1 set (UNIT|COMP: class_name ANY)
{(UNIT|COMP: class_name ANY)}
```

For example, to turn off tracing for the *kbbcrd* class of the Windows OS agent, the command is:

```
ras1 set (UNIT:kbbcrd ANY)
```

---

## Setting trace parameters for the Tivoli Enterprise Console server

In addition to the trace information captured by IBM Tivoli Monitoring, you can also collect additional trace information for the Tivoli Enterprise Console<sup>®</sup> components that gather event server metrics.

### About this task

To collect this information, modify the `.tec_diag_config` file on the Tivoli Enterprise Console event server. Use the steps in the following procedure to modify the event server trace parameters.

### Procedure

1. Open the `$BINDIR/TME/TEC/.tec_diag_config` file in an ASCII editor.
2. Locate the entries that configure trace logging for the agent components on the event server. Two entries are included, one for `tec_reception` and one for `tec_rule`:

```
# to debug Agent Utils
tec_reception Agent_Utils  error  /tmp/tec_reception
SP
# to debug Agent Utils
tec_rule Agent_Utils  error  /tmp/tec_rule
```

3. To gather additional trace information, modify these entries to specify a trace level of `trace2`:

```
# to debug Agent Utils
tec_reception Agent_Utils  trace2  /tmp/tec_reception
SP
# to debug Agent Utils
tec_rule Agent_Utils      trace2  /tmp/tec_rule
```

4. In addition, modify the `Highest_level` entries for `tec_rule` and `tec_reception`:

```
tec_reception Highest_level  trace2
SP
tec_rule Highest_level  trace2
```



---

## 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>).

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

---

### Installation and configuration troubleshooting

Problems can occur during installation, configuration, and uninstallation of the agent.

See Table 3 and Table 4 on page 14 for information about these problems and solutions.

*Table 3. Problems and solutions for installation and configuration*

Problem	Solution
A message similar to "Unable to find running CMS on CT_CMSLIST" in the log file is displayed.	If a message similar to "Unable to find running CMS on CT_CMSLIST" is displayed in the log file, the agent cannot connect to the monitoring server. Confirm the following points: <ul style="list-style-type: none"><li>• Do multiple network interface cards (NICs) exist on the system?</li><li>• 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.</li></ul>
The system is experiencing high CPU usage.	<p><b>Agent process:</b> View the memory usage of the KSACMA process. If CPU usage seems to be excessive, restart the monitoring agent.</p> <p><b>Network cards:</b> The network card configurations can decrease the performance of a system. Each stream of packets that a network card receives (assuming that it is a broadcast or destined for the under-performing system) must generate a CPU interrupt and transfer the data through the I/O bus. If the network card in question is a bus-mastering card, work can be offloaded and a data transfer between memory and the network card can continue without using CPU processing power. Bus-mastering cards are 32-bit and are based on PCI or EISA bus architectures.</p>

Table 3. Problems and solutions for installation and configuration (continued)

Problem	Solution
The configuration panel is blank on 64-bit Windows systems where the Tivoli Enterprise Monitoring Agent Framework (component GL) is version 06.23.00.00 or 06.23.01.00.	<p>Check the GL component version by running <code>kincinfo -t GL</code> from a Windows command line. Example:  <code>%CANDLE_HOME%\Install\ITM\kincinfo -t GL</code></p> <p>If the GL component version is 06.23.00.00 or 06.23.01.00, take one of the following actions:</p> <ul style="list-style-type: none"> <li>• <b>Preferred action:</b> Upgrade the Windows OS Agent to Version 6.2.3 Fix Pack 2.</li> <li>• <b>Alternate action:</b> Install the Agent Compatibility (AC) component from the IBM Tivoli Monitoring V6.2.3 Fix Pack 1 media. See Installing the Agent Compatibility (AC) component (<a href="http://publib.boulder.ibm.com/infocenter/tivihelp/v15r1/topic/com.ibm.itm.doc_6.2.3fp1/itm623FP1_install199.htm#acinstall">http://publib.boulder.ibm.com/infocenter/tivihelp/v15r1/topic/com.ibm.itm.doc_6.2.3fp1/itm623FP1_install199.htm#acinstall</a>).</li> </ul>

Table 4. General problems and solutions for uninstallation

Problem	Solution
The way to remove inactive managed systems (systems whose status is OFFLINE) from the Navigator tree in the portal is not obvious.	<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"> <li>1. Click the <b>Enterprise</b> icon in the Navigator tree.</li> <li>2. Right-click, and then click <b>Workspace &gt; Managed System Status</b>.</li> <li>3. Right-click the offline managed system, and select <b>Clear offline entry</b>.</li> </ol> <p>To uninstall the monitoring agent, use the procedure described in the <i>IBM Tivoli Monitoring Installation and Setup Guide</i>.</p>
After you upgrade the SAP agent from the previous version to the current, the values of SAP system parameters gets reset to default values.	You must re-enter the values of SAP system parameters and restart the SAP agent.

## Remote deployment troubleshooting

Problems can occur with remote deployment and removal of agent software using the Agent Remote Deploy process.

Table 5 contains problems and solutions related to remote deployment.

Table 5. Remote deployment problems and solutions

Problem	Solution
While you are using the remote deployment feature to install the IBM Tivoli Composite Application Manager Agent for SAP Applications, an empty command window is displayed on the target computer. This problem occurs when the target of remote deployment is a Windows computer. (For more information about the remote deployment feature, see the <i>IBM Tivoli Monitoring Installation and Setup Guide</i> .)	Do not close or modify this window. It is part of the installation process and is dismissed automatically.

Table 5. Remote deployment problems and solutions (continued)

Problem	Solution
The removal of a monitoring agent fails when you use the remote removal process in the Tivoli Enterprise Portal desktop or browser.	This problem might occur when you attempt the remote removal process immediately after you restart the Tivoli Enterprise Monitoring Server. You must allow time for the monitoring agent to refresh its connection with the Tivoli Enterprise Monitoring Server before you begin the remote removal process.

---

## Agent troubleshooting

A problem can occur with the agent after it has been installed.

Table 6 contains problems and solutions that can occur with the agent after it is installed.

Table 6. Agent problems and solutions

Problem	Solution
Log data accumulates too rapidly.	Check the RAS trace option settings, which are described in "Setting RAS trace parameters by using the GUI" on page 7. The trace option settings that you can set on the KBB_RAS1= and KDC_DEBUG= lines potentially generate large amounts of data.

Table 6. Agent problems and solutions (continued)

Problem	Solution
<p>A configured and running instance of the monitoring agent is not displayed in the Tivoli Enterprise Portal, but other instances of the monitoring agent on the same system are displayed in the portal.</p>	<p>IBM Tivoli Monitoring products use Remote Procedure Call (RPC) to define and control product behavior. RPC is the mechanism that a client process uses to make a subroutine call (such as GetTimeOfDay or ShutdownServer) to a server process somewhere in the network. Tivoli processes can be configured to use TCP/UDP, TCP/IP, SNA, and SSL as the protocol (or delivery mechanism) for RPCs that you want.</p> <p>IP.PIPE is the name given to Tivoli TCP/IP protocol for RPCs. The RPCs are socket-based operations that use TCP/IP ports to form socket addresses. IP.PIPE implements virtual sockets and multiplexes all virtual socket traffic across a single physical TCP/IP port (visible from the <b>netstat</b> command).</p> <p>A Tivoli process derives the physical port for IP.PIPE communications based on the configured, well-known port for the hub Tivoli Enterprise Monitoring Server. (This well-known port or BASE_PORT is configured by using the 'PORT:' keyword on the <b>KDC_FAMILIES / KDE_TRANSPORT</b> environment variable and defaults to '1918'.)</p> <p>The physical port allocation method is defined as (BASE_PORT + 4096*N), where N=0 for a Tivoli Enterprise Monitoring Server process and N={1, 2, ..., 15} for another type of monitoring server process. Two architectural limits result as a consequence of the physical port allocation method:</p> <ul style="list-style-type: none"> <li>• No more than one Tivoli Enterprise Monitoring Server reporting to a specific Tivoli Enterprise Monitoring Server hub can be active on a system image.</li> <li>• No more than 15 IP.PIPE processes can be active on a single system image.</li> </ul> <p>A single system image can support any number of Tivoli Enterprise Monitoring Server processes (address spaces) if each Tivoli Enterprise Monitoring Server on that image reports to a different hub. By definition, one Tivoli Enterprise Monitoring Server hub is available per monitoring enterprise, so this architecture limit has been reduced to one Tivoli Enterprise Monitoring Server per system image.</p> <p>No more than 15 IP.PIPE processes or address spaces can be active on a single system image. With the first limit expressed earlier, this second limitation refers specifically to Tivoli Enterprise Monitoring Agent processes: no more than 15 agents per system image.</p> <p>Continued on next row.</p>

Table 6. Agent problems and solutions (continued)

Problem	Solution
Continued from previous row.	This limitation can be circumvented (at current maintenance levels, IBM Tivoli Monitoring V6.1, Fix Pack 4 and later) if the Tivoli Enterprise Monitoring Agent process is configured to use the EPHEMERAL IP.PIPE process. (This process is IP.PIPE configured with the 'EPHEMERAL:Y' keyword in the <b>KDC_FAMILIES / KDE_TRANSPORT</b> environment variable). The number of ephemeral IP.PIPE connections per system image has no limitation. If ephemeral endpoints are used, the Warehouse Proxy agent is accessible from the Tivoli Enterprise Monitoring Server associated with the agents using ephemeral connections either by running the Warehouse Proxy agent on the same computer or by using the Firewall Gateway feature. (The Firewall Gateway feature relays the Warehouse Proxy agent connection from the Tivoli Enterprise Monitoring Server computer to the Warehouse Proxy agent computer if the Warehouse Proxy agent cannot coexist on the same computer.)
I cannot find my queries.	Agents that include subnodes display their queries within the element in the Query Editor list that represents the location of the attribute group. The queries are most often found under the name of the subnode, not the name of the agent.

## Workspace troubleshooting

Problems can occur with general workspaces and agent-specific workspaces.

Table 7 contains problems and solutions related to workspaces.

Table 7. Workspace problems and solutions

Problem	Solution
The process application components are available, but the Availability status shows PROCESS_DATA_NOT_AVAILABLE.	<p>This problem occurs because the PerfProc performance object is disabled. When this condition exists, IBM Tivoli Monitoring cannot collect performance data for this process. Use the following steps to confirm that this problem exists and to resolve it:</p> <ol style="list-style-type: none"><li>1. In the Windows <b>Start</b> menu, click <b>Run</b>.</li><li>2. Type <code>perfmon.exe</code> in the <b>Open</b> field of the Run window. The Performance window is displayed.</li><li>3. Click the plus sign (+) in the toolbar. The Add Counters window is displayed.</li><li>4. Look for <b>Process</b> in the <b>Performance object</b> menu.</li><li>5. Complete one of the following actions:<ul style="list-style-type: none"><li>• If you see <b>Process</b> in the menu, the PerfProc performance object is enabled and the problem is coming from a different source. You might need to contact IBM Software Support.</li><li>• If you do not see <b>Process</b> in the menu, use the Microsoft utility from the Microsoft.com Operations website to enable the PerfProc performance object. The <b>Process</b> performance object becomes visible in the <b>Performance object</b> menu of the Add Counters windows, and IBM Tivoli Monitoring is able to detect Availability data.</li></ul></li><li>6. Restart the monitoring agent.</li></ol>
The name of the attribute does not display in a bar chart or graph view.	<p>When a chart or graph view that includes the attribute is scaled to a small size, a blank space is displayed instead of a truncated name. To see the name of the attribute, expand the view of the chart until sufficient space is available to display all characters of the attribute name.</p>

Table 7. Workspace problems and solutions (continued)

Problem	Solution
<p>You start collection of historical data but the data cannot be seen.</p>	<p>Use the following managing options for historical data collection:</p> <ul style="list-style-type: none"> <li>• Basic historical data collection populates the Warehouse with raw data. This type of data collection is turned off by default. For information about managing this feature including how to set the interval at which data is collected, see “Managing historical data” in the <i>IBM Tivoli Monitoring Administrator’s Guide</i>. By setting a more frequent interval for data collection, you reduce the load on the system incurred every time data is uploaded.</li> <li>• Use the Summarization and Pruning agent to collect specific amounts and types of historical data. Historical data is not displayed until the Summarization and Pruning monitoring agent begins collecting the data. By default, this agent begins collection at 2 a.m. daily. At that point, data is visible in the workspace view. For information about how to modify the default collection settings, see “Managing historical data” in the <i>IBM Tivoli Monitoring Administrator’s Guide</i>.</li> </ul>
<p>Historical data collection is unavailable because of incorrect queries in the Tivoli Enterprise Portal.</p>	<p>The Sort By, Group By, and First/Last functions column are not compatible with the historical data collection feature. Use of these advanced functions makes a query ineligible for historical data collection.</p> <p>Even if data collection has started, you cannot use the time span feature if the query for the chart or table includes column functions or advanced query options (Sort By, Group By, First / Last).</p> <p>To ensure support of historical data collection, do not use the Sort By, Group By, or First/Last functions in your queries.</p> <p>For information about the historical data collection function, See “Managing historical data” in the <i>IBM Tivoli Monitoring Administrator’s Guide</i> or the Tivoli Enterprise Portal online help .</p>
<p>When you use a long process name in the situation, the process name is truncated.</p>	<p>Truncation of process or service names for situations in the Availability table in the portal display is the expected behavior. The maximum name length is 100 bytes.</p>
<p>Regular (non-historical) monitoring data fails to be displayed.</p>	<p>Check the formation of the queries you use to gather data. For example, look for invalid SQL statements.</p>
<p>Navigator items and workspace titles are labeled with internal names such as Kxx:KXX0000 instead of the correct names (such as Disk), where XX and xx represent the two-character agent code.</p>	<p>Ensure that application support has been added on the monitoring server, portal server, and portal client.</p> <p>For more information about installing application support, see “Installing and enabling application support” in the <i>IBM Tivoli Monitoring Installation and Setup Guide</i>.</p>

## Situation troubleshooting

Problems can occur with situations and situation configuration.

Table 8 contains problems and solutions for situations.

Table 8. 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 7. 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 <b>Free Memory</b> falls under 10 percent of <b>Total Memory</b> does not work: <code>LT #'Linux_VM_Stats.Total_Memory' / 10</code>	This formula is incorrect because situation predicates support only logical operators. Your formulas cannot have mathematical operators. <b>Note:</b> The Situation Editor provides alternatives to math operators. In the example, you can select the % <b>Memory Free</b> attribute and avoid the need for math operators.
You want to change the appearance of situations when they are displayed in the navigation tree.	<ol style="list-style-type: none"> <li>1. Right-click an item in the navigation tree.</li> <li>2. Click <b>Situations</b> in the menu. The Situation Editor window is displayed.</li> <li>3. Select the situation that you want to modify.</li> <li>4. Use the <b>State</b> menu to set the status and appearance of the Situation when it triggers.</li> </ol> <b>Note:</b> The <b>State</b> setting is not related to severity settings in the Tivoli Enterprise Console.
When a situation is triggered in the Event Log attribute group, it remains in the Situation Event Console as long as the event ID entry is present in the Event Log workspace. When this event ID entry is removed from the Event Log workspace on the Tivoli Enterprise Portal, the situation is also cleared even if the actual problem that caused the event is not resolved, and the event ID entry is also present in the Windows Event Viewer.	<p>A timeout occurs on the cache of events for the NT Event Log group. Increase the cache time of Event Log collection to meet your requirements by adding the following variable and timeout value to the <code>kpcENV</code> file for the agent (where <code>pc</code> is the two-letter product code):</p> <pre>CDP_NT_EVENT_LOG_CACHE_TIMEOUT=3600</pre> <p>This variable determines how long events from the NT Event Log are kept.</p>
For a situation that uses the 'MISSING' operator and is distributed to a remote agentless monitoring subnode, no indication is displayed in the Tivoli Enterprise Portal or in the Situation Event Console when the situation becomes true.	The MISSING predicate is currently not supported on subnodes. If a situation with a MISSING predicate is distributed to a subnode, the agent cannot tell which subnode or node the event is occurring on. It inserts the system name as the origin node for the event and returns. When the event reaches the Tivoli Enterprise Portal Server, the origin node does not match the system name of the subnode where the situation is associated, so the event is dropped.
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> .

Table 8. Situation problems and solutions (continued)

Problem	Solution
The monitoring interval is too long.	Access the Situation Editor view for the situation that you want to modify. Check the <b>Sampling interval</b> area in the <b>Formula</b> tab. Adjust the time interval as required.
The situation did not activate at startup.	Manually recycle the situation as follows: <ol style="list-style-type: none"> <li>1. Right-click the situation and select <b>Stop Situation</b>.</li> <li>2. Right-click the situation and select <b>Start Situation</b>.</li> </ol> <b>Note:</b> You can permanently avoid this problem by selecting the <b>Run at Startup</b> check box of the Situation Editor view for a specific situation.
The situation is not displayed.	Click the <b>Action</b> 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.
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 <b>Distribution</b> tab and check the distribution settings for the situation.

Table 8. Situation problems and solutions (continued)

Problem	Solution
<p>The situation does not fire.</p>	<p>This problem can be caused when incorrect predicates are present in the formula that defines the situation. For example, the managed object shows a state that normally triggers a monitoring event, but the situation is not true because the wrong attribute is specified in the formula.</p> <p>In the <b>Formula</b> tab, analyze predicates as follows:</p> <ol style="list-style-type: none"> <li>1. Click the <b>fx</b> icon in the <b>Formula</b> area. The Show formula window is displayed.               <ol style="list-style-type: none"> <li>a. Confirm the following details in the <b>Formula</b> area of the window:                   <ul style="list-style-type: none"> <li>• The attributes that you intend to monitor are specified in the formula.</li> <li>• The situations that you intend to monitor are specified in the formula.</li> <li>• The logical operators in the formula match your monitoring goal.</li> <li>• The numeric values in the formula match your monitoring goal.</li> </ul> </li> <li>b. (Optional) Select the <b>Show detailed formula</b> check box to see the original names of attributes in the application or operating system that you are monitoring.</li> <li>c. Click <b>OK</b> to dismiss the Show formula window.</li> </ol> </li> <li>2. (Optional) In the <b>Formula</b> area of the <b>Formula</b> 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><b>Note:</b> 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> </li> </ol> <p>For additional information about situations that do not fire, see “Situations are not firing” in the <i>IBM Tivoli Monitoring Troubleshooting Guide</i>.</p>
<p>Situation events are not displayed in the Events Console view of the workspace.</p>	<p>Associate the situation with a Navigator item.</p> <p><b>Note:</b> The situation does not need to be displayed in the workspace. It is sufficient that the situation is associated with any Navigator item.</p>
<p>You do not have access to a situation.</p>	<p><b>Note:</b> You must have administrator privileges to complete these steps.</p> <ol style="list-style-type: none"> <li>1. Click <b>Edit &gt; Administer Users</b> to access the Administer Users window.</li> <li>2. In the <b>Users</b> area, select the user whose privileges you want to modify.</li> <li>3. In the <b>Permissions</b> tab, <b>Applications</b> tab, and <b>Navigator Views</b> tab, select the permissions or privileges that correspond to the user role.</li> <li>4. Click <b>OK</b>.</li> </ol>

Table 8. Situation problems and solutions (continued)

Problem	Solution
A managed system seems to be offline.	<ol style="list-style-type: none"> <li>1. Select <b>Physical View</b> and click the Enterprise Level of the navigator tree.</li> <li>2. Click <b>View &gt; Workspace &gt; Managed System Status</b> to see a list of managed systems and their status.</li> <li>3. If a system is offline, check network connectivity and the status of the specific system or application.</li> </ol>

## Take Action commands troubleshooting

Problems can occur with Take Action commands.

Table 9 contains problems and solutions that can occur with Take Action commands.

When each Take Action command runs, it generates a log file listed in Table 2 on page 4.

Table 9. Take Action commands problems and solutions

Problem	Solution
Take Action commands often require several minutes to complete.	Allow several minutes. If you do not see a message advising you of completion, try to run the command manually.
Situations fail to trigger Take Action commands.	Attempt to manually run the Take Action command in the Tivoli Enterprise Portal. If the Take Action command works, look for configuration problems in the situation. See "Situation troubleshooting" on page 20. If the Take Action command fails, for general information about troubleshooting Take Action commands, see the <i>IBM Tivoli Monitoring Troubleshooting Guide</i> .

## Discovery Library Adapter for the agent troubleshooting

Problems can occur when using the Discovery Library Adapter for the agent.

Table 10 contains problems and solutions that can occur with an agent that is using a Discovery Library Adapter. For additional information about troubleshooting for the Discovery Library Adapter, see the IBM Tivoli Application Dependency Discovery Manager Information Center ([http://publib.boulder.ibm.com/infocenter/tivihelp/v10r1/topic/com.ibm.taddm.doc\\_7.2/welcome\\_page/welcome.html](http://publib.boulder.ibm.com/infocenter/tivihelp/v10r1/topic/com.ibm.taddm.doc_7.2/welcome_page/welcome.html)).

Table 10. Discovery Library Adapter for an agent problems and solutions

Problem	Solution

## Tivoli Common Reporting troubleshooting

You can troubleshoot problems that occur with installation and with using the Tivoli Common Reporting predefined reports for the agent.

For installation problems, use the report installer log to identify the step where installation failed. Use the problems and solutions information to troubleshoot other problems.

## Analyzing the report installer log

Review the `Report_Installer_For_TCR_Output.txt` file (on Windows under `C:\Documents and Settings\Administrator`; on Linux and UNIX under `$HOME`.) to identify the step on which the installer failed.

### Sample log output

```
=====
INSTALLATION COMPLETED.
=====
The status of installation steps:
TCRRunDBScripts(runDbScript): FAILED
INFORMATION: /tmp/450480.tmp/reports/itmfv/build.xml:31:
The <fileset> type doesn't support the "erroronmissingdir" attribute.
InstallReportsAction(IBM Tivoli Monitoring for
Virtual Environments Reports v7.1): SUCCESS
CognosDataSource(TDW): SUCCESS
=====
```

### Analysis

In the sample log, the success or failure of each step is evident:

1. `InstallReportsAction` (Step 1 - Importing Reports) succeeded.
2. `CognosDataSource(TDW)` (Step 2 - Defining the Tivoli Data Warehouse data source in Cognos®) succeeded.
3. `RunDBScripts` (Step 3 - Updating schema by running scripts against the Tivoli Data Warehouse) failed.

### Step 2: Define the Tivoli Data Warehouse data source in Cognos.

Possible causes of the failure:

- The database alias that is specified during installation did not match the cataloged DB2® database alias, the Oracle local TNS service name, or the MS SQL Server ODBC data source name.
- The credentials are incorrect for connecting to the Tivoli Data Warehouse.

Solution:

- Ensure that you installed the database client on the same server as Tivoli Common Reporting and cataloged the database. If you are using Oracle, the TNS service name must be defined in the `tnsnames.ora` file. If you are using MS SQL server, the ODBC data source must be defined. See *Connecting to the Tivoli Data Warehouse using the database client over ODBC* in the *IBM Tivoli Monitoring Administrator's Guide* ([http://publib.boulder.ibm.com/infocenter/tivihelp/v15r1/topic/com.ibm.itm.doc\\_6.2.3/tcr\\_tdwconnect.htm](http://publib.boulder.ibm.com/infocenter/tivihelp/v15r1/topic/com.ibm.itm.doc_6.2.3/tcr_tdwconnect.htm)). If you already have a Tivoli Data Warehouse data source that is defined, adding another one overwrites the existing data source.

### Step 3: Make schema updates

Possible causes of failure:

- Database administrative privileges (such as `db2admin` or `sys`) are required for this step; if user is specified as `ITMUSER`, the schema cannot be updated.
- Database issues such as connectivity problems, full logs, space issues, or any other performance problems that prevent writing to the database.

Solution:

- An error at Step 3 is accompanied by an informational message that contains SQL errors with SQL codes. You can search on the SQL code to determine the problem.
- If Time Dimension tables are present in the database, you can choose to skip the schema update (JDBC) step while you are running the dashboard installer. If you want to create time dimension with a different granularity, you must edit the following sql file:
  1. Go to `reports\package\reports\cognos_reports\itmfv\db_scripts`.

2. Open `call_proc_DB2.sql`, `call_proc_MSSQL.sql`, or `call_proc_ORACLE.sql` depending on the database that is used.
3. Edit the last parameter in the call to `IBM_TRAM.CREATE_TIME_DIMENSION`.

### Notes®

- The database scripts for creating indexes are provided for enhanced reporting performance in the Tivoli Data Warehouse. If your data warehouse is not prepared with history before installation, this step is skipped by the installer. You can manually run one the following scripts, depending on your database type:
  - `create_index_DB2.sql`
  - `create_index_MSSQL.sql`
  - `create_index_ORACLE.sql`

For more information, see *Creating shared dimensions tables and populating the time dimensions table* in the *IBM Tivoli Monitoring Administrator's Guide* ([http://publib.boulder.ibm.com/infocenter/tivihelp/v15r1/topic/com.ibm.itm.doc\\_6.2.3fp1/adminuse/tcr\\_reports\\_dimensionsshared.htm](http://publib.boulder.ibm.com/infocenter/tivihelp/v15r1/topic/com.ibm.itm.doc_6.2.3fp1/adminuse/tcr_reports_dimensionsshared.htm)).

- Although indexes help to enhance report performance, some limitations apply: Use indexes only on large tables with thousands of rows; because indexes degrade the performance of insert, update, and delete operations on a table.

You can run a script to drop these indexes if you run into either of these performance issues:

- `drop_index_DB2.sql`
- `drop_index_MSSQL.sql`
- `drop_index_ORACLE.sql`
- Connections under the Tivoli Data Warehouse are overwritten by the report installer. Overwriting these connections is a limitation of the current installer.
- The privileges that are required while you are running the installer are ITMUSER (database user) for the Tivoli Data Warehouse creation step and ADMIN (database administrator) for the schema update step. The Database Test connection for the schema update panel does not check for privileges of the database user. Installation fails at the schema update step if the database user does not have administrative privileges.

## Problems and solutions

Table 11 contains problems and solutions that can occur with the Tivoli Common Reporting predefined reports for the agent. See the Tivoli Common Reporting Information Center ([http://publib.boulder.ibm.com/infocenter/tivihelp/v3r1/topic/com.ibm.tivoli.tcr.doc\\_211/ic-home.html](http://publib.boulder.ibm.com/infocenter/tivihelp/v3r1/topic/com.ibm.tivoli.tcr.doc_211/ic-home.html)) for more information about troubleshooting for the Tivoli Common Reporting tool.

For timeout problems, if the default timeout values for the Tivoli Common Reporting or the Cognos console login is too short, you can change the settings. If your Java™ virtual machine runs out of memory, you can increase the heap size.

*Table 11. Tivoli Common Reporting for the agent problems and solutions*

Problem	Solution



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## 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>) and follow the instructions.
- Go to the Application Performance Management Wiki (<http://www.ibm.com/developerworks/servicemanagement/apm/index.html>). Feel free to contribute to this wiki.

### IBM Support Assistant

The IBM Support Assistant (ISA) is a free local software serviceability workbench that helps you resolve questions and problems with IBM software products. The ISA provides quick access to support-related information and serviceability tools for problem determination. To install the ISA software, go to the IBM Support Assistant website (<http://www.ibm.com/software/support/isa>).



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## 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.

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## **Agent messages**

The following messages apply to IBM Tivoli Composite Application Manager Agent for SAP Applications.

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