Problem Determination

Version 2.1
IBM Tivoli License Manager

Problem Determination

Version 2.1
Note

Before using this information and the product it supports, read the information under “Notices” on page 149.
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About this guide

This guide contains information about diagnosing and resolving problems that occur when you use IBM® Tivoli® License Manager.

It includes information about error reporting, logging, and tracing on agents and servers, instructions for using problem determination tools, guidelines for resolving performance problems, and information to help you diagnose specific problems.

Who should read this guide

This guide is for administrators and support staff who are responsible for managing the license management environment.

What this guide contains

This guide contains the following sections:

• **Chapter 1, “Overview”**
  Provides a summary of the problem determination features of Tivoli License Manager.

• **Chapter 2, “Validating server and database installation”**
  Provides a set of check actions that you should complete to ensure that the installation of a Tivoli License Manager server and its database have been correctly installed and configured.

• **Chapter 3, “Installation Logging”**
  Provides information about the trace and message logs produced during installation of Tivoli License Manager components.

• **Chapter 4, “Defining log configuration settings”**
  Provides instructions for configuring the logging components of Tivoli License Manager.

• **Chapter 5, “Trace logging”**
  Provides information about the trace files and their structure.

• **Chapter 6, “Message logging and interpretation”**
  Provides information about message logging and how to analyze the message logs.

• **Chapter 7, “Event logging and notification”**
  Provides information about event notification and how to configure servers so that e-mail notifications can be sent to administrators.

• **Chapter 8, “Problem determination tools”**
  Provides descriptions of tools and scripts that are provided to help in determining the causes of problems, instructions for using the tools, and guidance for interpreting the output.

• **Chapter 9, “Diagnosing problems”**
  Provides information to help you recognize and resolve commonly occurring problems.

• **Chapter 10, “Performance”**
  Describes the factors that can affect performance and provides suggestions for tuning to optimize performance.
Publications

This section lists publications in the Tivoli License Manager library and related documents. It also describes how to access Tivoli publications online and how to order Tivoli publications.

Tivoli License Manager library

The Tivoli License Manager library consists of the following books:

- **IBM Tivoli License Manager: Administration, SC32-1430**
  Provides an overview of Tivoli License Manager and gives information about how to use the product to set up a monitoring infrastructure, define licensing conditions, and produce reports.

- **IBM Tivoli License Manager: Planning, Installation, and Configuration, SC32-1431**
  Provides information about planning, installing, and configuring the Tivoli License Manager product.

- **IBM Tivoli License Manager: Data Dictionary, SC32-1432**
  Provides descriptions of the database tables and indexes maintained in the Tivoli License Manager administration server database.

- **IBM Tivoli License Manager: Problem Determination, SC32-9102**
  Provides information about Tivoli License Manager diagnostic information, including messages, traces, and event logs, and about tools and techniques for diagnosing problems.

- **IBM Tivoli License Manager: Catalog Management, SC32-1434**
  Describes how to use the software catalog management tool to maintain an up-to-date master catalog of products and the modules that are used to detect their presence and use on monitored computers.

  Provides instructions and other information related to enabling the use of Tivoli Data Warehouse with Tivoli License Manager.

- **IBM Tivoli License Manager: Release Notes, SC32-1429**
  Provides a summary of changes made in the release, lists the supported platforms for each component, documents known errors and workarounds, and includes the latest information about the product that could not be included in the main documentation. This document is not delivered on the publications CD, but is available from the Tivoli Software Information Center. Updated versions of the document may be placed on the Tivoli Software Information Center at any time.

How to access the Tivoli Software Information Center is described in [“Accessing publications online” on page xiii.](#)
Related publications

The following documents also provide useful information:

- IBM DB2 Universal Database™: Quick Beginnings for DB2® Servers, GC09-4836
- IBM DB2 Universal Database: Quick Beginnings for DB2 Clients, GC09-4832
  These Quick Beginnings guides provide an introduction to installing and configuring DB2 products.
- IBM DB2 Universal Database: Data Recovery and High Availability Guide and Reference, SC094831
- Redbook: DB2/UDB/WebSphere Performance Tuning Guide, SG246417
  This redbook contains useful information about tuning DB2 and WebSphere Application Server for performance. In particular, see Sections 2.7–2.10, Chapter 3, Sections 3.3-3.5; and Chapters 4 and 5.
- Redbook: IBM WebSphere V5.0 Performance, Scalability, and High Availability: WebSphere Handbook Series, SG246198
  This redbook contains useful information about tuning WebSphere Application Server for performance. In particular, see chapter 18.
- IBM WebSphere Application Server, version 5.0.2: Monitoring and Tuning Performance,
  This is the original tuning guide for WebSphere Application Server, version 5.
- Redbook: IBM WebSphere Application Server, version 5.0 System Management and Configuration, SG24-6195
  This redbook contains useful information about configuring WebSphere Application Server, version 5.

The Tivoli Software Glossary includes definitions for many of the technical terms related to Tivoli software. The Tivoli Software Glossary is available, in English only, at the following Web site:


Access the glossary by clicking the Glossary link on the left pane of the Tivoli software library window.

Accessing publications online

The Tivoli License Manager documentation CD contains the publications that are in the product library, other than the IBM Tivoli License Manager: Release Notes, in all supported languages. The format of the publications is PDF, HTML, or both. To access the publications using a Web browser, open the allpubs.htm file. The file is in the root directory on the documentation CD. Select the language of your choice, and an Information Center for the product in that language is displayed. Select the publication and the format in which you want to view it.

**Note:** On Windows® platforms, an autorun opens the allpubs.htm file in your default browser.

IBM posts publications for this and all other Tivoli products, as they become available and whenever they are updated, to the Tivoli Software Information Center Web site. Access the Tivoli Software Information Center by first going to the Tivoli software library at the following Web address:

Scroll down and click the **Product manuals** link on the left pane of the Tivoli software library window. In the Tivoli Technical Product Documents Alphabetical Listing window, click the **IBM Tivoli License Manager** link to access the product library at the Tivoli Information Center.

**Note:** If you print PDF documents on other than letter-sized paper, set the option in the **File → Print** window that allows Adobe Reader to print letter-sized pages on your local paper.

## Ordering publications

You can order many Tivoli publications online at the following Web site:


You can also order by telephone by calling one of these numbers:
- In the United States: 800-879-2755
- In Canada: 800-426-4968

In other countries, see the following Web site for a list of telephone numbers:


## Accessibility

Accessibility features help users with a physical disability, such as restricted mobility or limited vision, to use software products successfully. With this product, you can use assistive technologies to hear and navigate the interface. You can also use the keyboard instead of the mouse to operate all features of the graphical user interface.

This product is operated using a Web browser, which has certain built-in accessibility features, and has been provided with specific shortcut keys for navigating the Web interface, starting tasks, and performing toolbar actions.

For additional information, see the Accessibility appendix in the *IBM Tivoli License Manager: Administration*.

## Tivoli technical training

For Tivoli technical training information, refer to the following IBM Tivoli Education Web site:


## Contacting software support

IBM Software Support provides assistance with product defects.

Before contacting IBM Software Support, your company must have an active IBM software maintenance contract, and you must be authorized to submit problems to IBM. The type of software maintenance contract that you need depends on the type of product you have:
• For IBM distributed software products (including, but not limited to, Tivoli, Lotus®, and Rational® products, as well as DB2 and WebSphere products that run on Windows or UNIX® operating systems), enroll in Passport Advantage® in one of the following ways:
  – **Online:** Go to the Passport Advantage Web page and click **How to Enroll**.
    The Web address is the following:
    
    www.lotus.com/services/passport.nsf/WebDocs/Passport_Advantage_Home

  – **By phone:** For the phone number to call in your country, go to the IBM Software Support Web site [techsupport.services.ibm.com/guides/contacts.html](http://techsupport.services.ibm.com/guides/contacts.html) and click the name of your geographic region.

• For IBM eServer™ software products (including, but not limited to, DB2 and WebSphere products that run in zSeries®, pSeries®, and iSeries™ environments), you can purchase a software maintenance agreement by working directly with an IBM sales representative or an IBM Business Partner. For more information about support for eServer software products, go to the IBM Technical Support Advantage Web page [www.ibm.com/servers/eserver/techsupport.html](http://www.ibm.com/servers/eserver/techsupport.html).

If you are not sure what type of software maintenance contract you need, call 1-800-IBMSERV (1-800-426-7378) in the United States or, from other countries, go to the contacts page of the IBM Software Support Handbook on the Web [techsupport.services.ibm.com/guides/contacts.html](http://techsupport.services.ibm.com/guides/contacts.html) and click the name of your geographic region for phone numbers of people who provide support for your location.

Follow the steps in this topic to contact IBM Software Support:
1. “Determine the business impact of your problem”
2. “Describe your problem and gather background information” on page xvi
3. “Submit your problem to IBM Software Support” on page xvi

### Determine the business impact of your problem

When you report a problem to IBM, you are asked to supply a severity level. Therefore, you need to understand and assess the business impact of the problem you are reporting. Use the following criteria:

<table>
<thead>
<tr>
<th>Severity 1</th>
<th>Critical</th>
<th>business impact: You are unable to use the program, resulting in a critical impact on operations. This condition requires an immediate solution.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severity 2</td>
<td>Significant</td>
<td>business impact: The program is usable but is severely limited.</td>
</tr>
<tr>
<td>Severity 3</td>
<td>Some</td>
<td>business impact: The program is usable with less significant features (not critical to operations) unavailable.</td>
</tr>
<tr>
<td>Severity 4</td>
<td>Minimal</td>
<td>business impact: The problem causes little impact on operations, or a reasonable circumvention to the problem has been implemented.</td>
</tr>
</tbody>
</table>
Describe your problem and gather background information

When explaining a problem to IBM, be as specific as possible. Include all relevant background information so that IBM Software Support specialists can help you solve the problem efficiently. To save time, know the answers to these questions:

- What software versions were you running when the problem occurred?
- Do you have logs, traces, and messages that are related to the problem symptoms? IBM Software Support is likely to ask for this information.
- Can the problem be recreated? If so, what steps led to the failure?
- Have any changes been made to the system? (For example, hardware, operating system, networking software, and so on.)
- Are you currently using a workaround for this problem? If so, please be prepared to explain it when you report the problem.

The problem determination toolkit includes commands for assembling problem determination information for all product components. See "Assembling problem determination information" on page 45.

Submit your problem to IBM Software Support

You can submit your problem in one of two ways:

- **Online:** Go to the "Submit and track problems" page on the IBM Software Support site (www.ibm.com/software/support/probsub.html). Enter your information into the appropriate problem submission tool.
- **By phone:** For the phone number to call in your country, go to the contacts page of the IBM Software Support Handbook on the Web (techsupport.services.ibm.com/guides/contacts.html) and click the name of your geographic region.

If the problem you submit is for a software defect or for missing or inaccurate documentation, IBM Software Support creates an Authorized Program Analysis Report (APAR). The APAR describes the problem in detail. Whenever possible, IBM Software Support provides a workaround for you to implement until the APAR is resolved and a fix is delivered. IBM publishes resolved APARs on the IBM product support Web pages daily, so that other users who experience the same problem can benefit from the same resolutions.

For more information about problem resolution, see "Searching knowledge bases" and "Obtaining fixes" on page xvii.

Searching knowledge bases

If you have a problem with your IBM software, you want it resolved quickly. Begin by searching the available knowledge bases to determine whether the resolution to your problem is already documented.

Search the information center on your local system or network

IBM provides extensive documentation that can be installed on your local machine or on an intranet server. You can use the search function of this information center to query conceptual information, instructions for completing tasks, reference information, and support documents.
Search the Internet
If you cannot find an answer to your question in the information center, search the Internet for the latest, most complete information that might help you resolve your problem. To search multiple Internet resources for your product, expand the product folder in the navigation frame to the left and select Support on the Web. From this topic, you can search a variety of resources including:
- IBM technotes
- IBM downloads
- IBM Redbooks™
- IBM DeveloperWorks
- Forums and newsgroups
- Google

Obtaining fixes
A product fix might be available to resolve your problem. You can determine what fixes are available for your IBM software product by checking the product support Web site:
2. Under Products A - Z, select your product name. This opens a product-specific support site.
3. Under Self help, follow the link to Search all Downloads, where you will find a list of fixes, fix packs, and other service updates for your product. For tips on refining your search, click Search tips.
4. Click the name of a fix to read the description and optionally download the fix.

To receive weekly e-mail notifications about fixes and other news about IBM products, follow these steps:
1. From the support page for any IBM product, click My support in the upper-right corner of the page.
2. If you have already registered, skip to the next step. If you have not registered, click register in the upper-right corner of the support page to establish your user ID and password.
3. Sign in to My support.
4. On the My support page, click Edit profiles in the left navigation pane, and scroll to Select Mail Preferences. Select a product family and check the appropriate boxes for the type of information you want.
5. Click Submit.
6. For e-mail notification for other products, repeat Steps 4 and 5.

For more information about types of fixes, see the Software Support Handbook [techsupport.services.ibm.com/guides/handbook.html].

Updating support information
Information centers typically include one or more support information plug-ins. These plug-ins add IBM technotes and other support documents to the information center. The following steps describe how to update your support information plug-ins:
2. Under Products A - Z, select your product name. This opens a product-specific support site.

About this guide  xvii
3. Under **Search support for this product**, type the keyword phrase: `com.ibm.support`. Click the **Download** check box, and click **Submit**.

4. Check the search results for updates to support information plug-ins. All support information plug-ins follow the naming convention, “com.ibm.support.product.doc.” If an update is available, select it from the list and view the download instructions.

5. Save the attached zip file to a temporary location on your hard drive.

6. Unzip the downloaded file, making sure that you retain the subfolders.

7. From the location where you unzipped the file, copy the support information plug-in folder to your Eclipse plug-ins folder. For example, if your IBM software product is installed at `c:\IBM\WebSphere\`, copy the updated plug-in folder (`com.ibm.support.product.doc`) to `c:\IBM\WebSphere\eclipse\plugins`.

8. To see the updated support information, start the information center (or shut it down and restart it), and expand the **Support information** node in the navigation tree.

---

**Conventions used in this book**

This book uses several conventions for special terms and actions, and operating system-dependent paths.

**Typeface conventions**

This book uses the following typeface conventions:

**Bold**

- Lowercase commands and mixed case commands that are otherwise difficult to distinguish from surrounding text
- Interface controls (check boxes, push buttons, radio buttons, spin buttons, fields, folders, icons, list boxes, items inside list boxes, multicolored lists, containers, menu choices, menu names, tabs, property sheets), labels (such as **Tip:** and **Operating system considerations**)
- Column headings in a table
- Keywords and parameters in text

**Italic**

- Citations (titles of books, diskettes, and CDs)
- Words defined in text
- Emphasis of words (words as words)
- New terms in text
- Variables and values you must provide

**Monospace**

- Examples and code examples
- File names, programming keywords, and other elements that are difficult to distinguish from surrounding text
- Message text and prompts addressed to the user
- Text that the user must type
- Values for arguments or command options

<text> Indicates a variable in a path name. For example, in the path...
<INSTALL_DIR>\admin\conf, INSTALL_DIR depends on the location where you have installed a Tivoli License Manager component, while \admin\conf is constant.

Operating system-dependent notation
This book uses the Windows convention for environment variables and directory notation.

When using the UNIX, Linux™, and OS/400® command line you should do the following:

Environment variables
First verify the correct value for the UNIX, Linux, or OS/400 variable name, as many variables in different platforms that perform the same task have different names (for example, %TEMP% in Windows is equivalent to $tmp in UNIX and Linux). Then replace %Windows_variable% with $UNIX_variable

File and directory paths
Replace each backslash ( \ ) with a forward slash ( / ).

Note: If you are using the bash shell on a Windows system, you can use the UNIX conventions.
Chapter 1. Overview

The Tivoli License Manager problem determination book aims to help both users and support staff to resolve problems that can occur when using the product. This chapter provides an overview of the problem determination support available for Tivoli License Manager components.

Problem determination information

Tivoli License Manager provides the following types of information that can help you to resolve problems that might occur with Tivoli License Manager:

- Error, warning, and information messages are generated by all Tivoli License Manager components.

  The messages are logged and, when appropriate, displayed. Error and warning messages include an explanation of the situation that caused the problem and an action to be taken. See Appendix A, “Message reference,” on page 83 for a full list of all error and warning messages provided.

- Event notifications and event log entries are generated by the administration and runtime servers.

  Event notifications are generated in response to licensing events and to Tivoli License Manager system events, for example, when a server stops. Notifications are sent to designated recipients and the events are logged. For more information about the event logging and notification, see Chapter 7, “Event logging and notification,” on page 35.

- Trace information is collected by servers, catalog manager, and agents.

  A minimum level of tracing is always performed and this should enable the detection of the cause of the principal problems without the necessity of reproducing the error. Higher levels of tracing can be enabled if a problem occurs for which the level of detail is insufficient. See Chapter 4, “Defining log configuration settings,” on page 17.

National language support for problem determination information

The messages and the event notifications and log entries have national language support. They are designed for use by the users of the system and are translated into all supported languages. Tools for server message analysis support locale selection, so that the logged messages can be displayed in the language you specify.

The trace messages are not translated because they are designed principally for use by IBM support staff. The information about tracing provided in this book is designed to help you to make changes to the trace levels when additional trace information is required by support staff.

A common location for problem determination information

In order to make retrieval of problem determination information easier, Tivoli products log all problem determination information to a common directory structure, the Tivoli common directory. The Tivoli common directory is created the first time that a component of a Tivoli product is installed on a computer. Each product has its own substructure, identified by a product code (for Tivoli License
Manager this is "COD"), where message, trace, and event logs are stored, and from which problem determination tools can be launched. For more information about the Tivoli common directory and its structure, see Appendix C, “Tivoli Common directory,” on page 147.

Tools to assemble and access information

Tivoli License Manager provides a set of tools that can help you to assemble and analyze the problem determination information that is generated by the product, as follows:

- A command that extracts a subset of error messages from the message log and displays them in HTML format. The messages targeted by this tool identify problems which can be resolved by making configuration changes to Tivoli License Manager or one of its prerequisites or by making changes to your environment, for example changing access permissions to files and directories.
- A command that converts the trace and message logs generated by the product and displays them in HTML format.
- Commands that collect problem determination information required by IBM software support from the different locations where it is stored and assemble it in a single location.

For details of these tools and instructions for using them, see Chapter 8, “Problem determination tools,” on page 39.

Diagnosing problems

In a complex system problems can arise in the configuration, in interactions between different product components, and interactions between the product and its prerequisite software (DB2 and WebSphere Application Server). To help you resolve these problems, this book includes a chapter on diagnosis. Each diagnostic item describes a symptom that you might encounter and provides one or more cause and solution. See Chapter 9, “Diagnosing problems,” on page 49.
Chapter 2. Validating server and database installation

When you have completed the installation of server and database components, you should ensure that the components have been installed successfully, databases have been correctly created, populated, and configured, and that the servers are correctly configured on WebSphere Application Server. To do this, complete the following steps:

1. Check the connections between the servers and their databases. See “Checking database connections.”
2. Check that the Tivoli License Manager command lines are working. See “Checking the command lines” on page 4.
3. Check that the Web servers are working correctly. See “Checking the Web servers” on page 4.
4. Check data source for Tivoli License Manager on the WebSphere Administrator’s Console. See “Checking the data source” on page 5.
5. Check that the Tivoli License Manager servers have been correctly configured on WebSphere Application Server.
6. Check that the Tivoli License Manager servers have been started in the WebSphere Application Server. See “Checking that the servers started” on page 6.
7. Check that all necessary aliases have been included in the list of WebSphere Application Server host aliases. See “Checking the WebSphere Application Server ports and aliases” on page 6.
8. On Windows platforms, check that privileges to access files within Tivoli License Manager installation path are restricted to users in the Administrator’s group. See “Checking access permissions to Tivoli License Manager files” on page 6.
9. Check the message and trace logs produced by the installation. See Chapter 3, “Installation Logging,” on page 9 for full details about the logs produced during installation, their content, and their location.

Checking database connections

Check the connection to the Tivoli License Manager administration and runtime databases as follows:

1. Initialize the DB2 command line on the computer where the Tivoli License Manager administration or runtime server is installed.
2. Enter the following command:
   
   \[ \text{db2 connect to } \langle \text{database name} \rangle \text{ user tlmsrv} \]
   
   Where \( \langle \text{database name} \rangle \) is tlmadb for the administration server database, and tlmrdb for the runtime server database.
3. Enter the database password when it is requested.

The following information is returned if the connection succeeds:

<table>
<thead>
<tr>
<th>Database Connection Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Database server</td>
</tr>
<tr>
<td>SQL authorization ID</td>
</tr>
<tr>
<td>Local database alias</td>
</tr>
</tbody>
</table>
Checking database connections

If you do not get this result, there is a problem with the database or with the connection between the Tivoli License Manager server and the database. See Chapter 9, “Diagnosing problems,” on page 49 for details of the possible reasons. You can attempt to connect the database to the server manually. See the instructions in IBM Tivoli License Manager: Planning, Installation, and Configuration.

Checking the command lines

Check the Tivoli License Manager command line as follows:

1. On the administration server computer, open the Tivoli License Manager command line.
2. Type:
   ```
   info
   ```

This command should return the following information:

- The version of the Tivoli License Manager installed
- The install path
- The name of the DB2 database for the server

If the command fails to return this information, this indicates a failure to access the database, probably caused by a mismatch between the DB2 password entered during the server installation and the password defined for the `tlmsrv` user.

Checking the Web servers

Check the Web server on each computer where you have installed a Tivoli License Manager server, as follows:

1. Open a browser.
2. In the Address box, type the host name of the computer where the Tivoli License Manager server is installed, in the format `http://<hostname>/`. The HTTP welcome screen should appear. The following shows the **Welcome Panel**
for the IBM HTTP Server:

If this panel does not appear, first check that the host name you typed is correct, and if so, check that the Web server is running.

**Checking the data source**

Check the data source for a Tivoli License Manager server on the WebSphere Administrator’s Console, as follows:

1. Ensure that server 1 is up and running.
   - On Windows platforms, server1 is a service and can be started and stopped from the Windows Services list.
   - On UNIX platforms, do the following:
     - Change to the WebSphere Application Server program directory: `<TLM_WAS_PATH>/bin`
     - Start the server: Type:
       
       ```bash
       ./startServer.sh server1
       ```

2. Start the WebSphere Administrator’s Console.

3. In the navigation pane, click **Resources ▶ JDBC Providers**.

4. On the page that appears, browse for the node where the server is installed and then browse for the administration or runtime server, which you are checking.

5. Click **Apply**.

6. Click the **TLM_JDBC Provider** link and check that the data source for the selected server is listed.
Checking WebSphere Application Server configuration

Checking server configuration on WebSphere Application Server

Check that each Tivoli License Manager server is included in the WebSphere Application Server list of application servers for the host where it is installed.
1. Start the WebSphere Administrator’s Console.
2. In the navigation pane, click Server → Application Servers.
3. Check that the Tivoli License Manager servers that you installed are included in the list of servers.
4. In the navigation pane, click Application → Enterprise Applications.
5. Check that the list includes entries for the Tivoli License Manager server applications.

Checking that the servers started

Check that the Tivoli License Manager administration or runtime application server has been started. To do this, run the following command from the <WEBSPHERE_INSTALL_DIR>\WebSphere\AppServer\bin directory: serverStatus -all.
This shows which servers are installed and their current status. If the server has not been started, start it by opening the appropriate command line and running the srvstart command.

If the server fails to start and an exception message informs you that the HTTP transport port is in use, you need to do the following:
1. Modify the Web server configuration to listen to the port you want to use.
2. Modify the Web server virtual host definition for Tivoli License Manager to use the new port.
3. Modify WebSphere Application Server to ensure that its aliases include the new port.
4. Modify the URL you use to contact the server, either from the GUI or from other servers, so that it includes the new port.

Checking the WebSphere Application Server ports and aliases

An alias is a DNS host name and port number that is used to form the URL request for a Web application server resource. You must check that aliases are set up so that different variants of the host name can be used together with the port number to form the URL. Check the host aliases as follows:
1. Start the WebSphere Administrator’s Console.
2. In the navigation pane, click Environment → Virtual Hosts
3. On the page that is displayed, click default host, then click Host aliases.
4. In the lists, look for the port you have configured for the Tivoli License Manager server (80 for non-secure communications or 443 for secure communications, if you accepted the defaults).
   The value for the corresponding host name should be set to ‘*‘, indicating that all variants of the host name are valid.

Checking access permissions to Tivoli License Manager files

The installation wizard restricts permissions to access files within the Tivoli License Manager installation path to users in the Administrators group. However, it is possible that on some Windows computers a different name is used for this group. In such a case, the wizard is unable to assign the permissions, and the files are
installed with no access restrictions. You must check that the group Administrators exists. If it does not, you must get the name that has been used for the group of users with administration privileges and restrict access to the Tivoli License Manager installation path to that group by running the following commands:

```
cacls %TLM_COMPONENT_CLI_PATH% /T /P <Administrators>:F

cacls %TLM_WAR_CONF_PATH% /T /P <Administrators>:F

cacls %CHANGE_AUTH_FILE_PATH% /T /P <Administrators>:F
```

Where `<Administrators>` is the name of the group of users with administration privileges.
Chapter 3. Installation Logging

This chapter provides information about the problem determination information generated during the installation of Tivoli License Manager components. It contains the following sections:

- “Servers, databases, and catalog manager,” which provides information about the trace and message files generated by the wizard that installs the servers and their databases and the wizard that installs the catalog manager.
- “Agent installation” on page 11, which provides an overview of the different methods available for deploying the Tivoli License Manager agent and describes the trace and message information that is available.

Servers, databases, and catalog manager

The installation processes for servers and their related databases and for catalog manager maintain provide information in the form of traces and messages. Production of this information cannot be disabled during the install process.

Installation trace

The traces for the installation of servers, related databases, and the catalog manager provide a detailed, timestamped record of the actions taken during installation and any exceptions that occurred. The trace files produced by the wizards are stored in the directory: <Tivoli_Common_Dir>COD\logs\install\trace.

The following list describes the purpose of each of the trace logs created by the installation wizards.

trace_servers.log

This is the main installation log written by the wizard that installs the Tivoli License Manager servers and their related databases. It traces the installation process from beginning to end including the checks for prerequisites and for the existence of a previous or current version of Tivoli License Manager. It is written in Log XML format and can be viewed using the standard Tivoli XML Log Viewer, which is installed with the server and catalog manager components. For more information about using the Tivoli XML Log Viewer, see “Using the Tivoli XML Log Viewer” on page 40.

When servers are installed, the log includes records of all validations, file creations, or updates. In the case of the automatic installation of prerequisites, the log records the entry and exit for this phase of installation, while the details of the installation are recorded in the installation logs of the prerequisite products. Similarly, when a Tivoli License Manager database is installed, this log records the entry and exit into the phase of database creation and population, while the details are recorded in the trace_db_servers.log file.

trace_db_servers.log

This log is written by the installation wizard when the option to install a Tivoli License Manager database has been selected. It traces the installation phase during which the database is created, configured, cataloged, and (in the case of the administration server database) populated with the information relating to products that can be monitored by Tivoli License Manager. This log is a text file and can be viewed in any text editor.
Installation logging: servers, databases, and catalog manager

trace_catman.log
This is the main installation log written by the wizard that installs the catalog manager tool and configures its access to the Tivoli License Manager administration server database. It traces the installation process from beginning to end including the checks for prerequisites and for the existence of a previous or current version of the catalog manager. It is written in Log XML format and can be viewed using the standard Tivoli XML Log Viewer, which is installed with the server and catalog manager components. For more information about using the Tivoli XML Log Viewer, see “Using the Tivoli XML Log Viewer” on page 40.

The log includes records of all validations, file creations or updates. In the case of the automatic installation of the prerequisite DB2 client, the log records the entry and exit for this phase of installation, while the details of the installation are recorded in the installation logs of the prerequisite product. Similarly, when the installation process enters the phase of cataloging the database information, this log records the entry and exit while the details are recorded in the trace_db_catman.log file.

trace_db_catman.log
This log is written by the catalog manager installation wizard during the phase when the access details of the administration server database are cataloged. This log is a text file and can be viewed in any text editor.

Note: The trace_servers.log and trace_catman.log files are created as soon as the wizard starts. This means that they exist before the Tivoli common directory structure for Tivoli License Manager is created. If either wizard fails before it has created the Tivoli common directory structure, the log file is saved in the following directory:

Windows

%TEMP%

UNIX $tmp

Depending on your system settings, the %TEMP% directory may be hidden. To locate the directory, issue the command echo %TEMP% whether the directory is or is not hidden, and the reply will give the directory’s full path (in DOS 8.3 format). You can then specifically open the log file.

Install messages
The install wizards generate messages some of which are displayed on the wizard panels either when a situation occurs or in a summary at the end of the wizard. All messages are logged and the message logs are stored in the directory:

<Tivoli_Common_Dir>\COD\logs\install\message

The wizards produce the following categories of message:

• Error: This identifies a situation that must be resolved before the installation can proceed. For example, insufficient rights to install the product.

• Warning: This identifies a problem that will not prevent you continuing with the installation. For example, a warning is issued if the wizard does not detect a prerequisite such as WebSphere Application Server. If the prerequisite is not present, the wizard will install it.

• Information: This provides information about the normal progress of the installation wizard. For example, an information message is logged when a parameter such as the administration server address is input.
The following list describes the purpose of each of the message logs created by the installation wizards. Installation message logs are written in Log XML format and can be viewed using the standard Tivoli XML Log Viewer, which is installed with the server and catalog manager components. For more information about using the Tivoli XML Log Viewer, see “Using the Tivoli XML Log Viewer” on page 40.

msg_servers.log

This log records error, warning, and information messages that were generated during the running of the wizard that installs the Tivoli License Manager servers and their related databases.

msg_catman.log

This log records error, warning, and information messages that were generated during the running of the wizard that installs the catalog manager tool and configures its access to the Tivoli License Manager administration server database.

Agent installation

The process of getting an agent working on a node has two phases: deployment, which is the delivery of the agent files to the target computer, and installation, which is performed by launching the installagent program on the target computer.

This section includes the following information:

• “Deployment tracing” including information about logging for the different types of agent deployment to target computers.
• “Installation tracing” on page 13 including information about logging during the process of agent installation on a target computer.

Tracing of the installation phase is present for all methods of deployment. All the trace logs created during deployment and installation of the agent are in text format and can be viewed using any text editor.

Deployment tracing

Tracing of the deployment phase depends on the method of deployment used. This section details the logs produced by each deployment method and the locations in which they are stored.

Web Deployment

When you deploy the agent on an individual computer by downloading it from the agent registration page of the runtime server, tracing of the deployment of agent files is turned off by default. This is because the deployment is interactive, and the most common causes for failure, for example, use of an unsupported browser or network connectivity problems, can be identified by messages on the Web page. See “Agent deployment, installation, and uninstallation” on page 61 for more information about symptoms of problems with agent deployment.

If you encounter a problem deploying an agent in this way and need more information, you can enable detailed tracing as follows:

1. On the runtime server from which you intend to deploy the agent, open the agent_install.properties file and set the property parm.debug to true.

   The agent_install.properties file is located in the directory:

   <INSTALL_DIR>\runtime\SLM_Runtime_Application.ear\slm_runtime.war\WEB-INF\conf
Installation logging: agent

2. Open your Internet browser and enable the Java™ console.

   Note: You might need to restart the browser.

3. Deploy the agent on the target computer.

4. Check the Java console for any exceptions that have been generated.

In addition to the information shown on the Java Console, enabling the parm.debug property also causes the creation of the itlmDeploymentTrace.log file on the target node. This file provides a detailed log of the steps taken to select the appropriate agent files for deployment on the target node and to download them. It is a text file, and can be opened in any text editor. The location of the log depends on the platform as follows:

Windows
The home directory of the browser that was used for the deployment.

UNIX \tmp

Deployment with Configuration Manager
Configuration Manager can be used to distribute a set of agents to target computers where the Tivoli endpoint is installed. When the agent is deployed using this method, the following trace files are created:

agt_deploy_trace.txt
This file provides a detailed log of the steps taken to copy the files from the software package to the target computer.

agt_deploy_error.txt
This file is created if any errors occurred during the copying of files from the software package to the target computer.

Both files are text files, and can be opened in any text editor. The location of the files is: <TARGET_DIR>\agent\logs. TARGET_DIR is the name of the directory on the target computer to which the software package was sent.

Deployment using SSH and RSH
This method of deployment can be used to deploy agents on UNIX nodes. It uses existing remote shell (RSH) and secure shell (SSH) networks to distribute the agent files to one or more remote nodes and to launch the agent installation on the nodes. The deployment tool runs on Windows computer, and it is on this computer that the following deployment logs are created:

msg_agtdeploy.log
This file provides messages about the success or failure of deployment on each target computer. The location of this file is:
<Tivoli_Common_Dir>COD\logs\install\message on the computer where the deployment tool is run.

trace_agtdeploy.log
This file provides a detailed log of the checks made and actions taken to deploy the agent on each target computer and identifies any errors that prevented the deployment from being completely successful. The location of this file is: <Tivoli_Common_Dir>COD\logs\install\trace on the computer where the deployment tool is run.

If the tool fails to create the Tivoli Common Directory, the logs are stored in the Windows temporary directory. Depending on your system settings, the temporary directory may be hidden. To locate the directory, issue the command echo
Installation logging: agent

%TEMP% whether the directory is or is not hidden, and the reply will give the directory’s full path (in DOS 8.3 format). You can then specifically open the log file.

Both logs are written in Log XML format and can be viewed using the Tivoli XML Log Viewer. For more information about using the Tivoli XML Log Viewer, see “Using the Tivoli XML Log Viewer” on page 40.

Deployment on OS/400
The deployment process for OS/400 nodes differs from the processes available for other platforms. It does not consist of a deployment phase followed by the running of the installagent program. The agent is installed by launching a wizard on a Windows node. The wizard accepts the deployment parameters and launches native programs on the OS/400 node to add the agent as a program. The wizard traces its own activity, which includes the process of delivering the package to the OS/400 node, in the file trace_agent.log which is stored in the directory: /QIBM/UserData/tivoli/common/install/trace.

This log will help you to identify any problems with an OS/400 agent deployment that are external to the native program. The log is written in text format and can be opened in any text editor.

Installation tracing
Several logs can be created during agent installation. All are text files and can be opened in any text editor.

The main trace file of the agent installation process is trace_agent.log. It records each step of the agent install process and logs any exceptions that occur. It is normally stored in the directory: <Tivoli_Common_Dir>\COD\logs\install\trace.

The trace_agent.log file is created as soon as the installagent program starts. This means that it exists before the Tivoli Common Directory structure for Tivoli License Manager is created. If the wizard fails before it has created the Tivoli Common Directory structure, the log file is saved in one of the following directories depending on platform and deployment method:

Web Deployment for Windows
The home directory of the browser that was used for the deployment.

Web deployment for UNIX
\tmp

Other deployment methods
The source directory supplied to the installagent program.

**Note:** The trace_agent.log file produced during installation of an agent on an OS/400 node does not include detailed information about the installation process. It includes mainly information about the actions of the wizard that deploys the agent package and launches a native program to add the agent. It also includes a return code indicating the success or failure of the native installation. To see detailed logging from the native program, you must view its log while the program is an active job.

In addition to the trace_agent.log file, the agent install process can also create the following log files:

**GSKinstall.log**
This log traces the installation or upgrade of GSKit to enable secure communications between the agent and runtime server. The installation
Installation logging: agent

process for GSKit is invoked by the installagent program. In some circumstances, the installation of GSKit will require a reboot of the computer and the agent cannot be used until this has been done. This file includes an overall result code and return codes that indicate the requirement for a reboot and the presence of files that could not be upgraded because they were locked. In the case of locked files, the changes to be made will be made automatically on reboot.

slmrc.log

This log records the return code indicating the success or failure of the installation. For Web deployment installation, the return code is sent to the runtime server, a message is displayed on the Web interface, and this file is deleted. For other deployment methods it is retained. See Table 1 for a list of the return codes, explanations, and recommended actions.

The location of the GSKinstall.log and slmrc.log files depends on the agent platform and deployment method, as follows:

Web Deployment for Windows
The home directory of the browser that was used for the deployment.

Web deployment for UNIX
\tmp

Other deployment methods
The source directory supplied to the installagent program.

Table 1. Installagent return codes

<table>
<thead>
<tr>
<th>Return code</th>
<th>Possible cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>-1</td>
<td>• Invalid character in the computer label parameter.</td>
<td>• Check your input for computer label.</td>
</tr>
<tr>
<td></td>
<td>• Invalid character in the customer or server name.</td>
<td>• Check the customer and server names in the communication.properties file for the server.</td>
</tr>
<tr>
<td>-2</td>
<td>The Windows environment variable %WINDIR% does not exist.</td>
<td>Check:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>My Computer &gt; Properties &gt; Advanced &gt; Environment.</td>
</tr>
<tr>
<td>-3</td>
<td>• The agent configuration file, tlmagent.ini, could not be written.</td>
<td>• Check the disk and file systems where the agent configuration files should be installed.</td>
</tr>
<tr>
<td>-4</td>
<td>The main agent file could not be installed.</td>
<td>Check the disk and file systems where the agent file should be installed.</td>
</tr>
<tr>
<td>-8</td>
<td>The agent failed to start.</td>
<td>Check the system and try to start the agent from the command line.</td>
</tr>
<tr>
<td>-12</td>
<td>The agent configuration file, tlmagent.ini, could not be installed.</td>
<td>Check the disk and file systems where the agent configuration files should be installed.</td>
</tr>
<tr>
<td>-13</td>
<td>The agent uninstall script could not be installed.</td>
<td>Check the disk and file systems where the agent uninstall script should be installed.</td>
</tr>
<tr>
<td>-14</td>
<td>You do not have sufficient privileges to install the agent.</td>
<td>Log on to the computer as a user with administrative rights (Administrator for Windows, or root for UNIX).</td>
</tr>
</tbody>
</table>
### Table 1. Installagent return codes (continued)

<table>
<thead>
<tr>
<th>Return code</th>
<th>Possible cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>-16</td>
<td>The tables and files for national language support could not be installed.</td>
<td>Check the disk and file systems where the tables and files for national language support should be installed.</td>
</tr>
<tr>
<td>-17</td>
<td>The check for prerequisite free space on disk failed.</td>
<td>Free enough space to install the agent.</td>
</tr>
<tr>
<td>-18</td>
<td>It was not possible to create the trace file in the directory you specified.</td>
<td>Check that the directory exists and that you have the appropriate permissions to write in it.</td>
</tr>
<tr>
<td>-19</td>
<td>The target node currently has an agent installed and the organization ID for the current agent does not match the organization ID of the runtime server specified for the new agent.</td>
<td>If the target node is to be transferred to a different organization, you must uninstall the current agent before deploying the new agent.</td>
</tr>
<tr>
<td>-20</td>
<td>An error occurred on a Linux 390 computer while writing the tlmsubcapacity.cfg file.</td>
<td>Check your access permissions and the file space available, then retry the installation.</td>
</tr>
<tr>
<td>-21</td>
<td>An internal error occurred while initializing the agent configuration.</td>
<td>Contact IBM software support.</td>
</tr>
<tr>
<td>-22</td>
<td>The IBM Global Security Toolkit (GSKit) could not be installed. Therefore, the installation of the agent could not proceed.</td>
<td>Check the prerequisites for the installation of the agent and that you have the appropriate permissions to perform the installation.</td>
</tr>
<tr>
<td>-23</td>
<td>It is not possible to create the GSKit directory because the path would be too long.</td>
<td>Ensure the path is not too long and retry the installation.</td>
</tr>
<tr>
<td>-24</td>
<td>An error occurred while copying the Was_Cloning script to the target directory.</td>
<td>Ensure that there is sufficient space in the directory:</td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>&lt;Tivoli Common Dir&gt;\COD\scripts\agent\</code></td>
</tr>
<tr>
<td>-25</td>
<td>An error occurred while renaming the scanner directory.</td>
<td>Check your access permissions and retry the installation.</td>
</tr>
<tr>
<td></td>
<td><strong>Windows</strong></td>
<td><code>%windir%\itlm\scanner</code></td>
</tr>
<tr>
<td></td>
<td><strong>UNIX</strong></td>
<td><code>/var/itlm/scanner</code></td>
</tr>
<tr>
<td>-26</td>
<td>The scanner packet could not be unpacked.</td>
<td>· You might not have enough space. Check that there is sufficient space in the scanner directory to unpack the files.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>· The packet might be corrupt. You can try to deploy the agent from a different runtime server. If this works, the packet is corrupt only on the original source server. If it does not work, contact IBM software support.</td>
</tr>
<tr>
<td>-28</td>
<td>The Tivoli Common Directory structure has not been created.</td>
<td>Check that you have the correct access permissions, and that there is sufficient space, then retry the installation.</td>
</tr>
<tr>
<td>-29</td>
<td>The agent has installed successfully but has not been correctly registered on the target machine.</td>
<td>On Windows platforms, you can use commands to add the agent to the services table and to start the agent, as follows:</td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>%windir%\itlm\tlmagent -i</code></td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>%windir%\itlm\tlmagent -g</code></td>
</tr>
<tr>
<td></td>
<td></td>
<td>On UNIX platforms, retry the installation.</td>
</tr>
</tbody>
</table>
## Installation logging: agent

Table 1. Installagent return codes (continued)

<table>
<thead>
<tr>
<th>Return code</th>
<th>Possible cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>The agent has been successfully installed, but the computer must be rebooted before the agent can start.</td>
<td>Reboot the computer. The agent will start automatically when the computer restarts.</td>
</tr>
<tr>
<td>-31</td>
<td>The agent has not been installed on an AIX® platform because a required fix has not been installed.</td>
<td>Obtain the fix for APAR IY52121 from the IBM software support Web site, install it, and reboot the machine. Then retry the installation.</td>
</tr>
</tbody>
</table>

See the Agent chapter IBM Tivoli License Manager: Planning, Installation, and Configuration for information about agent prerequisites, agent file locations, and agent commands on the different agent platforms.
Chapter 4. Defining log configuration settings

This chapter includes information and instructions for configuring the logging functionality of all Tivoli License Manager components. It includes the following sections:

- “Servers and catalog manager,” which includes instructions for configuring the trace, message, and event logging components for servers and the catalog manager.
- “Agent” on page 20, which includes instructions for configuring the trace and message components for the Tivoli License Manager native agent and the WebSphere Application Server subagent.
- “Configuring HTTP server logging” on page 23, which includes instructions for customizing the IBM HTTP server trace configuration, to provide more complete information about communications between Tivoli License Manager servers.

Servers and catalog manager

For the administration server, runtime servers, and catalog manager, the configuration of all types of logging is unified in a single file, log.properties, which controls the logging of trace, messages, and events (servers only).

This section provides an overview of the configuration of the logging components, as follows:

- Information about the default logging configuration and instructions for changing the settings. See “Defining trace, message, event log settings.”
- Instructions for reloading log configuration settings at runtime. See “Applying trace settings” on page 19.

Defining trace, message, event log settings

The log.properties file stores the configurable values for the trace, message logging, and event logging components.

A copy of the log.properties file is installed with the administration server, runtime server, and catalog manager components. Therefore trace settings can be defined differently for each installed component. The location of the log.properties file is:

Administration server
<INSTALL_DIR>\admin\SLM_Admin_Application.ear\slm_admin.war\WEB-INF\conf

Runtime server
<INSTALL_DIR>\runtime\SLM_Runtime_Application.ear\slm_runtime.war\WEB-INF\conf

Catalog manager
<INSTALL_DIR>\bin

Figure 1 on page 18 shows the default settings for the logging components.
Log configuration: servers and catalog manager

// the default trace level
traceLevel = MIN
// the default size of the error log files.
errorFileSize = 1024
// the default size of the trace log files.
traceFileSize = 1024
// the default size of the time log files.
timeFileSize = 1024
// the default size of the event log files.
eventFileSize = 1024
// maximum number of messages in a message log
logMessageNumber = 100

// CLI log settings
// the default number of files to use for message logging
cli.maxFiles=3
// the default size (in Kbytes) of the message log files.
cli.maxFileSize=1024

Figure 1. Default settings in the log.properties file

You can change the settings as follows:

**traceLevel**
Defines the level of trace to be logged during operation of the server or catalog manager. Tracing cannot be disabled. The lowest level, **MIN**, which is the default, provides a level of tracing to identify the cause of most problems without having to try to reproduce them. The other available levels are **MID** and **MAX**, which provide higher levels of details and can be enabled in a problem occurs whose cause cannot be immediately identified. For information about the type of information logged at each level see "Trace levels" on page 25.

**errorFileSize, traceFileSize, and timeFileSize**
The server and catalog manager trace component produces three types of trace files, traceError, trace, and traceTime. These settings determine the maximum size of a single iteration of the different file types. The file sizes should be defined in the range 1024 to 5120 KB. Consider that each file type can have up to 10 iterations, when deciding whether to increase the size from the default value.

**eventFileSize**
This setting determines the maximum size of a single iteration of an event log file. Event log files are written for server components only, so this setting is not relevant to the catalog manager trace configuration. The file size should be defined in the range 1024 to 5120 KB. Consider that there can be up to 10 iterations of the event log file, when deciding whether to increase the size from the default value.

**logMessageNumber**
The maximum number of messages that can be logged in a single iteration of a server or catalog manager message log. The setting should defined in the range 100 to 500. The default setting of 100 messages produces a file of about 300 KB. Consider that there can be up to 10 iterations of the message log, when deciding whether to increase the size from the default value.

**cliMaxFiles**
The maximum number of iterations of the command line message file. This setting should be defined in the range 2 to 10. Consider the overall space
requirement for the message logs when defining this setting and the cliMaxFileSize setting. However, be aware that if this setting is reduced to 1, the maximum size setting will not be respected and entries will continue to be appended to the single file even after it reaches the maximum setting. This means that there would be no automatic control of the space required for command line message files.

**cliMaxFileSize**

This setting determines the maximum size of a single iteration of a command line message file. The file size should be defined in the range 1024 to 5120 KB. Consider the overall space requirement for the message logs when defining this setting and the cliMaxFileSize setting.

### Applying trace settings

Changes to any configuration settings are automatically applied when a server or the catalog manager is restarted. For trace settings, utilities are provided to enable you to apply your changes without stopping the component.

**Administration and runtime servers**

Use the command:

```
logreload [-p port]
```

where `port` is the communications port number (default = 80).

A link is available to launch the command from the Tivoli Common Directory, in the following location: `<Tivoli_Common_Dir>\COD\scripts`.

You can also launch it from the server command line. See Appendix B, “The command line interface,” on page 131 for information about accessing the command line on Tivoli License Manager servers.

**Catalog manager**

From the menu bar in the catalog manager GUI, select **Settings**, then select **Reload trace**.
Agent

This section includes the following information:

- Instructions for defining and reloading the trace and message configuration settings for the Tivoli License Manager agent. See "Native Agent."
- Instructions for defining and reloading the trace and message configuration settings for the WebSphere Application Server subagent. See "WebSphere Application Server agent" on page 21.

Native Agent

The tlmagent.ini file stores the configurable values for the trace component.

The location of the tlmagent.ini file depends on the agent platform. See IBM Tivoli License Manager: Planning, Installation, and Configuration for information about agent file locations.

Figure 2 shows the default settings for trace level, trace file sizes, and number of trace files. The default settings require 6 MB of disk space for trace files. Because the agent trace and message files can be backed up, you should double the amount of space required. Take account of this if you decide to increase the number or size of files.

```
# Trace size
trace_size = 1000000

# Trace level (MIN, MID, MAX)
trace_level = MIN

# Number of trace files
trace_files = 6

# Message log size
msglog_size = 1000000

# Number of message files
msglog_files = 6
```

Figure 2. Default settings in the tlmagent.ini file

You can change the settings as follows:

**trace_size**

This setting determines the maximum size of a single iteration of the agent trace file types. The file size is expressed in bytes and should be defined in the range 64000 to 16000000. Consider the overall space requirement for the trace logs when defining this setting and the trace_files setting.

**traceLevel**

Defines the level of trace to be logged during operation of the agent. Tracing cannot be disabled. The lowest level, MIN, which is the default, provides a level of tracing to identify the cause of most problems without having to try to reproduce them. The other available levels are MID and MAX, which provide higher levels of details and can be enabled in a problem occurs whose cause cannot be immediately identified. For information about the type of information logged at each level see "Trace levels" on page 29.
trace_files
The maximum number of iterations of the agent trace file. This setting should be defined in the range 2 to 10. Consider the overall space requirement for the trace logs when defining this setting and the trace_size setting. However, be aware that if this setting is reduced to 1, the maximum size setting will not be respected and entries will continue to be appended to the single file even after it reaches the maximum setting. This means that there would be no automatic control of the space required for agent trace files.

msglog_size
This setting determines the maximum size of a single iteration of an agent message file. The file size is expressed in bytes and should be defined in the range 64000 to 16000000. Consider the overall space requirement for the message logs when defining this setting and the msglog_files setting.

msglog_files
The maximum number of iterations of the agent message file. This setting should be defined in the range 2 to 10. Consider the overall space requirement for the message logs when defining this setting and the msglog_size setting. However, be aware that if this setting is reduced to 1, the maximum size setting will not be respected and entries will continue to be appended to the single file even after it reaches the maximum setting. This means that there would be no automatic control of the space required for agent message files.

Applying trace settings
Changes to the following agent log configuration settings can be reloaded immediately without stopping the agent:
- trace_level
- trace_size
- msglog_size

To apply these changes, you must be logged on to the computer where the agent is installed as Administrator (Windows) or root (UNIX). Open a command window and issue the following command:

Windows
%WINDIR%\tlm\tlmagent -reload

UNIX
/usr/sbin/tlmagent -reload

OS/400
CALL QITLM/TLMAGENT PARM(‘-reload’)  

To apply other changes to the agent log configuration, you must stop and restart the agent.

WebSphere Application Server agent
The itlm.log file stores the configurable values for the trace component of the WebSphere Application Server agent.

The location of the itlm.log file depends on the agent platform. See IBM Tivoli License Manager: Planning, Installation, and Configuration for information about agent file locations.
You can define the following trace settings on each computer where a WebSphere Application Server agent is installed:

- The level of tracing
- The number of trace files to be stored
- The maximum size of each trace file

Figure 3 shows the default settings for trace level, trace file sizes, and number of trace files. The trace configuration settings that you can change are shown in bold type. Do not change any of the other settings.

The default settings define a trace level of DEBUG_MIN, ensuring a level of tracing that will allow most problems to be resolved without the need to recreate the problem. The default size and number of files settings require 5 MB of disk space for trace files. Because the trace files can be backed up, you should double the amount of space required. Take account of this if you decide to increase the number or size of trace files.

You can change the settings as follows:

### Log configuration: agent

```plaintext
# ITLM log messages formatter. Formats messages in a format compliant to Tivoli standards.
# Not to be edited by the customer
itm.formatter.className=com.ibm.log.PDXMLFormatter
itm.formatter.description=Sample problem determination XML Formatter
itm.formatter.singleComponent=true
itm.formatter.singleProductId=true
itm.formatter.singleProductInstance=true
itm.formatter.singleServer=true

# File Handler definition. Defines the format and the content of the toolkit trace file. Not to be edited by the customer
itm.handler.className=com.ibm.log.FileHandler
itm.handler.description=Sample FileHandler
itm.handler.encoding=UTF8
itm.handler.appending=true
itm.handler.formatterName=itm.formatter

# size and files number for messages and traces
itm.handler.message.maxFiles=2
itm.handler.message.maxFileSize=1024
itm.handler.trace.maxFiles=5
itm.handler.trace.maxFileSize=1024

# Logger definitions, not to be edited by the customer
itm.logger.className=com.ibm.log.PDLogger
itm.logger.description=Sample Problem Determination Logger
itm.logger.productInstance=ProductInstance
itm.logger.serverFormat=IP
itm.logger.trace.listenerNames = itm.handler.trace
itm.logger.message.listenerNames=itm.handler.message
itm.logger.message.messageFile=wasagent

# Trace level (DEBUG_MIN, DEBUG_MID, DEBUG_MAX)
itm.logger.trace.level=DEBUG_MAX

Figure 3. Default settings in the itlm.log file
```

You can change the settings as follows:

- `itm.handler.message.maxFiles`
  - The maximum number of iterations of the message file. This setting should be defined in the range 2 to 10. Consider the overall space requirement for the message logs when defining this setting and the `msglog_size` setting. However, be aware that if this setting is reduced to 1, the maximum size
setting will not be respected and entries will continue to be appended to the single file even after it reaches the maximum setting. This means that there would be no automatic control of the space required for message files.

**itm.handler.message.maxFileSize**
This setting determines the maximum size of a single iteration of an message file. The file size is expressed in kilobytes. Consider the overall space requirement for the message logs when defining this setting and the **itm.handler.message.maxFiles** setting.

**itm.handler.trace.maxFiles**
The maximum number of iterations of the trace file. This setting should be defined in the range 2 to 10. Consider the overall space requirement for the trace logs when defining this setting and the **itm.handler.trace.maxFileSize** setting. However, be aware that if this setting is reduced to 1, the maximum size setting will not be respected and entries will continue to be appended to the single file even after it reaches the maximum setting. This means that there would be no automatic control of the space required for trace files.

**itm.handler.trace.maxFileSize**
This setting determines the maximum size of a single iteration of the agent trace file types. The file size is expressed in kilobytes. Consider the overall space requirement for the trace logs when defining this setting and the **itm.handler.trace.maxFiles** setting.

**itm.logger.trace.Level**
Defines the level of trace to be logged during operation of the WebSphere Application Server agent. Tracing cannot be disabled. The lowest level, **DEBUG_MIN**, which is the default, provides a level of tracing to identify the cause of most problems without having to try to reproduce them. The other available levels are **DEBUG_MID** and **DEBUG_MAX**, which provide higher levels of details and can be enabled in a problem occurs whose cause cannot be immediately identified.

If you make any changes to the configuration, you can immediately apply them by launching a command that reloads the trace configuration, as follows:

1. Open a command window and change to the home directory of the WebSphere Application Server agent.
2. Launch the script:
   - **Windows**
     ```bash
     WasAgentClient.bat
     ```
   - **UNIX and OS/400**
     ```bash
     WasAgentClient.sh
     ```
   This opens a shell from which you can launch the reload command.
3. Type:
   ```bash
   reloadconf
   ```

---

### Configuring HTTP server logging

Information about the communications between the administration and runtime servers can be obtained from the Web server logs. If you are using the IBM HTTP server as your Web server, you can enhance the information logged by HTTP server by changing the default log configuration to include the following information:
Configuring HTTP server logging

- The hostname of the server that initiated the communication
- The service request ID that uniquely identifies the communication
- The ID of the Tivoli License Manager service that the communication relates to, for example DownloadEntitlement

To make this change to the HTTP server configuration, complete the following steps:

1. Open the file: `<IBM HTTP SERVER INSTALL DIR>\conf\httpd.conf`.
2. Locate the following line:
   
   ```
   LogFormat "%h %l %u %t "%r" %>s %b" common
   ```
3. Change the line to:
   
   ```
   LogFormat "%h %l %u %t "%r" %>s %b %{User-agent}i" common
   ```
4. Save the file and exit.
5. Stop and restart the HTTP server to apply the change.

This configuration change results in the following format of log entry in the file `<IBM HTTP SERVER INSTALL DIR>\logs\access.log`:

```
.......
146.84.117.74 - - [14/May/2004:10:00:46 +0200] "POST /slmadmin/service HTTP/1.1" 200 247 omega1-7-DownloadTopology
146.84.117.74 - - [14/May/2004:10:00:46 +0200] "POST /slmadmin/service HTTP/1.1" 200 142 omega1-8-UpdateCatalog
146.84.117.74 - - [14/May/2004:10:00:47 +0200] "POST /slmadmin/service HTTP/1.1" 200 183 omega1-9-DownloadEntitlement
.......
```
Chapter 5. Trace logging

This chapter describes the trace functionality of Tivoli License Manager components. It includes the following sections:

- “Servers and catalog manager”
- “Trace logging on the agent” on page 28

Servers and catalog manager

This section describes the trace functionality of the Tivoli License Manager administration and runtime servers and the catalog manager. It includes the following topics:

- An overview of the different trace levels that are available and the types of information that are logged at each level. See “Trace levels.”
- A summary of the log files that are created, their contents, and location. See “Trace files and locations” on page 26.
- Information about the location and content of the logs relating to the Tivoli License Manager servers created by WebSphere Application Server. See “WebSphere Application Server logs” on page 28.

Trace levels

The trace component that is used on Tivoli License Manager servers and the catalog manager is able to collect a wide range of information. A minimum level of tracing is enabled by default and cannot be disabled to ensure that some trace information is always available when a problem occurs. Thus, you will only need to set a higher trace level and try to reproduce the problem if the default logged information is insufficient. For information about the default trace configuration and how to change it, see Chapter 4, “Defining log configuration settings,” on page 17.

You can set tracing to one of three levels (MIN, MID, and MAX). Each of these levels includes a number of trace types, which define the types of condition that are to be logged. Table 2 shows the trace levels that you can set. It shows the types of information that are logged at the default MIN level, and types of information that are added as the trace level is increased to MID or MAX.

Table 2. Trace levels for servers and catalog manager

<table>
<thead>
<tr>
<th>Trace level</th>
<th>Trace type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIN (default)</td>
<td>ERROR</td>
<td>Records the occurrence of unrecoverable interruptions of the workflow.</td>
</tr>
<tr>
<td></td>
<td>LOG</td>
<td>Records significant events in the normal operation of the system, which might be of use in tracking the root of any problem that occurs.</td>
</tr>
<tr>
<td></td>
<td>START/STOP</td>
<td>Records time-stamped entries for the start and end of threads.</td>
</tr>
<tr>
<td></td>
<td>ENTRY/EXIT</td>
<td>Records the entry and exit points of key methods.</td>
</tr>
<tr>
<td>MID</td>
<td>TRACE</td>
<td>Tracks significant events.</td>
</tr>
<tr>
<td></td>
<td>ASSERT</td>
<td>Tracks situations of high risk, for example, those that might lead to data corruption.</td>
</tr>
</tbody>
</table>
Tracing servers and catalog manager

Table 2. Trace levels for servers and catalog manager (continued)

<table>
<thead>
<tr>
<th>Trace level</th>
<th>Trace type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAX</td>
<td>DEBUG</td>
<td>Provides a detailed record of the sequence of actions generated by the program code.</td>
</tr>
<tr>
<td>DATA</td>
<td></td>
<td>Provides a detailed record of all data operations.</td>
</tr>
</tbody>
</table>

Trace files and locations

Trace log files are created in the following directories on the computers where the administration server, a runtime server, or the catalog manager is installed:

Administration server

<Tivoli_Common_Dir>\COD\logs\admin\trace

Runtime server

<Tivoli_Common_Dir>\COD\logs\runtime\trace

Catalog manager

<Tivoli_Common_Dir>\COD\logs\catman\trace

The following files store the information logged by the different tracing operations:

- traceError-<number>.log
- trace-<number>.log
- traceTime-<number>.log

Each type of log file has a configurable maximum size. Using the default configuration, the trace files for server or catalog manager will take up to 30 Mbyte of space. There are up to 10 iterations of each type of file. When the maximum size is reached, the trace component starts writing to the next file in sequence. For example, when traceError-1.log reaches the maximum size specified for traceError files, entries are written to traceError-2.log and so on. When traceError-9.log reaches the maximum size, the oldest file is overwritten and the cycle begins again.

The problem determination toolkit includes a command that converts logs from their original text format and displays them in an HTML format. See "Using the viewer command” on page 41.

The traceError log

This file provides a record of any exceptions that have occurred on the server or catalog manager. The only conditions that are logged in this file are those with a trace type of ERROR. This means that, unless at least one operation has terminated in an abnormal way that could not be managed by the product logic, the file have length = 0. The error conditions logged in this file are also logged in the trace log, where they can be seen in the context of other operations that have been performed before and after the error was generated.

The following example shows a single entry in the traceError log:

The log entry is made up of two parts: the trace message and the Java error stack. Table 3 shows a breakdown of the trace message into its component parts.

**Table 3. Components of a traceError trace message**

<table>
<thead>
<tr>
<th>Component</th>
<th>Example content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date and time of entry</td>
<td>09-23-13.21.27.688</td>
</tr>
<tr>
<td>Thread</td>
<td>{AdminCore}</td>
</tr>
<tr>
<td>Class name</td>
<td>com.ibm.it.rome.slm.admin.core.AdminCore</td>
</tr>
<tr>
<td>Trace type</td>
<td>[ERROR]</td>
</tr>
<tr>
<td>Trace message (identifies the exception)</td>
<td>com.ibm.it.rome.slm.system.SlmException</td>
</tr>
</tbody>
</table>

The Java error stack is the list that follows the message. It shows the sequence that ended with the generation of the exception. The beginning of the sequence is at the bottom of the stack.

**The trace log**

This file provides a detailed record of server or catalog manager operations. The following trace types write entries to this log:

- ERROR
- ENTRY
- EXIT
- TRACE
- ASSERT
- DEBUG
- DATA

The following example shows a single entry in the trace log:


Table 4 shows a breakdown of the trace message into its component parts.

**Table 4. Components of a trace message**

<table>
<thead>
<tr>
<th>Component</th>
<th>Example content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date and time of entry</td>
<td>09-23-13.21.23.297</td>
</tr>
<tr>
<td>Thread</td>
<td>{main}</td>
</tr>
<tr>
<td>Class name</td>
<td>com.ibm.it.rome.slm.pooler.SlmPoolerFactory</td>
</tr>
<tr>
<td>Trace type</td>
<td>[TRACE]</td>
</tr>
<tr>
<td>Message</td>
<td>Retrieving used database....</td>
</tr>
</tbody>
</table>

**The traceTime log**

This file provides a record of the start and end of certain operations. It is useful in identifying communications between Tivoli License Manager components. The administration server traceTime includes entries for communications initiated by
Tracing servers and catalog manager

runtime servers with the administration server, for example, the download of topology or license information. The runtime server traceTime log includes entries for communications initiated by the agents with the runtime server, and the wake-up service where the administration server contacts the runtime servers.

The following trace types write entries to this log:
- **START**
- **STOP**

The following example shows a single entry in the traceTime log:

```
09-23-13.21.24.094 {AdminCore} com.ibm.it.rome.slm.admin.core.AdminCore[TIME]START - Administration server core thread is starting
```

Table 5 shows a breakdown of the trace message into its component parts.

<table>
<thead>
<tr>
<th>Component</th>
<th>Example content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date and time of entry</td>
<td>09-23-13.21.24.094</td>
</tr>
<tr>
<td>Thread</td>
<td>{AdminCore}</td>
</tr>
<tr>
<td>Class name</td>
<td>com.ibm.it.rome.slm.admin.core.AdminCore</td>
</tr>
<tr>
<td>Trace type</td>
<td>START</td>
</tr>
<tr>
<td>Message</td>
<td>Administration server core thread is starting</td>
</tr>
</tbody>
</table>

**WebSphere Application Server logs**
Logs written by WebSphere Application Server can provide additional information to help resolve some problems with the Tivoli License Manager. When the administration server or a runtime server is configured as an application server on WebSphere Application Server, the WebSphere Application Server standard output and standard error regarding the server is written to the stdout.log and stderr.log files at the following locations:

**Administration server**

```
<INSTALL_DIR>\admin\WAS
```

**Runtime server**

```
<INSTALL_DIR>\runtime\WAS
```

The WebSphere Application Server logs provide information that can be useful for resolving problems related to starting and stopping the server.

---

**Trace logging on the agent**

This section describes trace and message logging functionality for the agent component of Tivoli License Manager. It includes the following information:
- "Native agent" on page 29, which includes information about the content and location of the trace files for the native agent and instructions on how to change and reload the trace configuration.
- "WebSphere Application Server agent" on page 30, which includes information about the content and location of the trace files for the WebSphere Application Server agent and instructions on how to change and reload the trace configuration.
If the agent is installed on a computer that is running WebSphere Application Server 5.0, or a later version, the agent component includes a subagent to monitor J2EE applications that are running inside the WebSphere Application Server container.

**Native agent**

This section describes the trace functionality of the Tivoli License Manager agent. It includes the following topics:

- An overview of the different trace levels that are available and the types of information that are logged at each level. See "Trace levels."
- Information about the agent trace log, including the location of the log and the structure of trace log entries. See "Trace files and locations."

For information about configuring the trace component of the agent, see "Native Agent" on page 20.

**Trace levels**

The trace component that is used on agents is able to collect a wide range of information. A minimum level of tracing is enabled by default and cannot be disabled to ensure that some trace information is always available when a problem occurs. Thus, you will only need to set a higher trace level and try to reproduce the problem if the default logged information is insufficient.

You can set tracing to one of three levels (MIN, MID, and MAX). Table 6 shows the trace levels that you can set. It shows the types of information that are logged at the default MIN level, and types of information that are added as the trace level is increased to MID or MAX.

<table>
<thead>
<tr>
<th>Trace level</th>
<th>Trace type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIN (default)</td>
<td>ERROR</td>
<td>Records the occurrence of unrecoverable interruptions of the workflow.</td>
</tr>
<tr>
<td>LOG</td>
<td>Records significant events in the normal operation of the system, which might be of use in tracking the root of any problem that occurs.</td>
<td></td>
</tr>
<tr>
<td>START/STOP</td>
<td>Records time-stamped entries for the start and end of threads.</td>
<td></td>
</tr>
<tr>
<td>ENTRY/EXIT</td>
<td>Records the entry and exit points of key methods.</td>
<td></td>
</tr>
<tr>
<td>MID</td>
<td>TRACE</td>
<td>Tracks significant events.</td>
</tr>
<tr>
<td>ASSERT</td>
<td>Tracks situations of high risk, for example, those that might lead to data corruption.</td>
<td></td>
</tr>
<tr>
<td>MAX</td>
<td>DEBUG</td>
<td>Provides a detailed record of the sequence of actions generated by the program code.</td>
</tr>
<tr>
<td>DATA</td>
<td>Provides a detailed record of all data operations.</td>
<td></td>
</tr>
</tbody>
</table>

**Trace files and locations**

The log file that is maintained during the operation of the agent is trace1.log.

The number of agent trace files that are maintained and the maximum size of each file are configurable. The agent trace logger always writes to the file trace1.log. When this file reaches its maximum size, it is renamed trace1.log and a new
trace.log is started. If trace1.log already exists, it is renamed trace2.log and so on, until the maximum number of files is reached. The oldest log is always the file with the highest number.

The agent trace files are stored within the Tivoli Common Directory structure, at the following location: `<Tivoli_Common_Dir/COD/logs/agent/trace`.

The following example shows a single entry in an agent trace log in Log XML format:

```
<Trace Level = "MIN">
  <TimeMillis="1087932135375">2004-06-22 12:22:15.375-07:00</Time>
  <Server>alpha</Server>
  <Productid>COD</Productid>
  <LogText>slmCheckProcessInCatalogctrl</LogText>
  <LogAttribs><Key>organizaton</Key><Value>IBM</Value></LogAttribs>
    Method="unknown" Line="1934"/>
  <Thread>2412</Thread>
  <Process>2068</Process>
</Trace>
```

Table 7 shows a breakdown of an example trace message into its component parts.

<table>
<thead>
<tr>
<th>Component</th>
<th>Example content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trace level at time of logging</td>
<td>MIN</td>
</tr>
<tr>
<td>Date and time of entry</td>
<td>2004-06-22 12:22:15.375-07:00</td>
</tr>
<tr>
<td>Agent host</td>
<td>alpha</td>
</tr>
<tr>
<td>Product ID</td>
<td>COD</td>
</tr>
<tr>
<td>Trace message</td>
<td>getLatModule</td>
</tr>
<tr>
<td>Agent organization</td>
<td>organization IBM</td>
</tr>
<tr>
<td>Trace source</td>
<td>FileName=&quot;../../../agent/cache/lat.c&quot; Method=&quot;../../../agent/cache/catalog.c&quot;</td>
</tr>
<tr>
<td>Thread</td>
<td>2208</td>
</tr>
<tr>
<td>Process</td>
<td>2180</td>
</tr>
</tbody>
</table>

With the exception of OS/400, agent trace logs on all platforms are written in Log XML format and can be viewed directly using the Tivoli XML Log Viewer. See “Using the Tivoli XML Log Viewer” on page 40 for information about how to use the Tivoli XML Log Viewer. The OS/400 agent trace log is written in a text format and can be viewed using any text editor.

WebSphere Application Server agent

This section describes the trace functionality of the WebSphere Application Server agent. For information about configuring the trace component of the WebSphere Application Server agent, see “WebSphere Application Server agent” on page 21.

Trace files and locations

The trace log file that is maintained during the operation of the WebSphere Application Server agent is trace<number>.log.

The number of WebSphere Application Server agent trace files that are maintained and the maximum size of each file are configurable. The agent trace logger always writes to the file trace.log. When this file reaches its maximum size, it is renamed trace-1.log and a new trace.log is started. If trace-1.log already exists, it is
renamed trace-2.log and so on, until the maximum number of files is reached. The oldest log is always the file with the highest number.

The trace.log file is stored within the Tivoli Common Directory structure, at the following location: <Tivoli_Common_Dir>/COD/logs/wasagent/trace.

The following example shows a single entry in the trace.log file in Log XML format:

```xml
<Trace Level = "MAX">
  <Time Millis="1087932135375">2004-06-22 12:22:15.375-07:00</Time>
  <LogText>Adding new entry to server list name: IBM_TLM_Administration_Server
    soapPort: 8882 rmiPort: 2811 hostname: alpha</LogText>
  <Source FileName="com.ibm.it.rome.wasagent.Scanners"
    Method="scanServers"/>
  <Thread>Thread-4</Thread>
</Trace>
```

Table 8 shows a breakdown of the WebSphere Application Server trace message into its component parts.

**Table 8. Components of a agent trace message**

<table>
<thead>
<tr>
<th>Component</th>
<th>Example content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trace level at time of logging</td>
<td>MAX</td>
</tr>
<tr>
<td>Date and time of entry</td>
<td>2004-06-22 12:22:15.375-07:00</td>
</tr>
</tbody>
</table>
| Trace message                      | Adding new entry to server list name: IBM_TLM_Administration_Server
                                           soapPort: 8882 rmiPort: 2811 hostname: alpha |
| Source                          | File= "com.ibm.it.rome.wasagent.Scanners"
                                           Method="../../../agent/main/commctrl.c"
                                           Line="515"
| Thread                          | Thread-4                                              |

WebSphere Application Server agent trace logs are written in Log XML format and can be viewed directly using the Log XML viewer.
Chapter 6. Message logging and interpretation

This chapter provides the following types of information:

- Information about message files and their locations. See “Message file locations.”
- Information about message file contents, and about tools you can use to interpret the message files. See “Viewing and analyzing message output.”

For a complete list of error and warning messages generated by the Tivoli License Manager components, see Appendix A, “Message reference,” on page 83.

Message file locations

Message files for all components are named Msg-<number>.log, where <number> identifies the iteration of the file.

They are created in the following directories on the computers where component is installed:

Administration server

<Tivoli_Common_Dir>\COD\logs\admin\message
<Tivoli_Common_Dir>\COD\logs\admin\message\cli

Runtime server

<Tivoli_Common_Dir>\COD\logs\runtime\message
<Tivoli_Common_Dir>\COD\logs\runtime\message\cli

Catalog manager

<Tivoli_Common_Dir>\COD\logs\catman\message
<Tivoli_Common_Dir>\COD\logs\catman\message\cli

Agent

<Tivoli_Common_Dir>\COD\logs\agent\message

WebSphere Application Server agent

<Tivoli_Common_Dir>\COD\logs\wasagent\message

Viewing and analyzing message output

The components of Tivoli License Manager generate messages that are classified as errors, warnings, and information. All error messages and many warning messages recommend an action to resolve the situation that the message identifies. All error and warning messages, therefore, have the following components:

Message number

Uniquely identifies the message and can be used to report an error to IBM Software Support.

Message text

Identifies the operation where the problem occurred and indicates whether the problem caused the operation to fail.
Explanation
Provides a more detailed context for the problem reported in the message text.

Action
Describes the steps to be taken to resolve the problem.

All error and warning messages are written to the message logs. If a problem is generated by an operation performed on one of the GUIs, the message text, explanation, and recommended action are immediately displayed on the screen. Other messages are logged silently.

With the exception of the command line messages (stored in the cli subdirectory), the message logs generated by the server and catalog manager components are language-independent. The logs contain the message identifiers and any parameters required in the message. To read this logs, you must use the viewer command. This command converts each message log to the Log XML format, expanding the logged messages with the appropriate text from the language bundle of the selected language, and then merges all the logs into a single HTML file, which includes message ID, message text, explanation and action for each message. For more information and instructions on how to use this command, see “Using the viewer command” on page 41.

The problem determination tool command (pdtool) provides a more specialized analysis of the server and catalog manager message logs. It is designed to identify occurrences of a defined set of problems that can be resolved by changing configuration values or environment settings, for example, a misconfiguration of a runtime server. For more information and instructions on how to use this command, see “Using the pdtool command” on page 43.

On the agent component, most messages are logged silently. When agent messages are displayed, for example, when the agent command line is used, only the message text is displayed.

The message logs for the agent, WebSphere Application Server agent, and the command line messages for servers and catalog manager are written in the Log XML format and can be viewed directly using the Tivoli Log Viewer tool. See “Using the Tivoli XML Log Viewer” on page 40. However, these logs do not include the explanation and action elements of the message. Use the log in conjunction with the message reference in this book for information and recommended action for logged messages. See Appendix A, “Message reference,” on page 83.
Chapter 7. Event logging and notification

Tivoli License Manager includes a component that logs significant events that occur on the administration and runtime servers. For example, both the administration and runtime server event loggers, record an event when the server starts or stops and the runtime server event log provides a comprehensive record of the granting, denial, and release of licenses. A subset of events also trigger the automatic generation of an e-mail notification, which is sent to designated recipients.

This chapter provides the following information about event logging and notification:

- Information about the location of event log files and their configuration. See “Event file locations.”
- Instructions for setting the parameters for sending notifications and for specifying who is to receive them. See “Defining notification recipients and notification settings for a server.”
- A summary of the events logged and notified on the administration server. “Events and notifications on the administration server” on page 37.
- A summary of the events logged and notified on the runtime servers. “Events and notifications on runtime servers” on page 37.

Event file locations

Event log files are created in the following directories on the computers where the administration server or a runtime server is installed:

**Administration server**

<Tivoli_Common_Dir>COD\logs\admin\event

**Runtime server**

<Tivoli_Common_Dir>COD\logs\runtime\event

The maximum size of the event log is a configurable value defined in the log.properties file for the administration or runtime server. There are up to 10 iterations of the event log. When the maximum size is reached, the event logger starts writing to the next file in sequence. For example, when event-1.10g reaches the maximum size, entries are written to event-2.10g and so on. When event-9.10g reaches the maximum size, the oldest file is overwritten and the cycle begins again.

For information about how to change the log configuration, see Chapter 4, “Defining log configuration settings,” on page 17.

Defining notification recipients and notification settings for a server

To use event notification you must specify who is to receive notifications and define settings that allow the notifications to be automatically sent.

Recipients of notifications are users who have accounts to access the Web interfaces on the Tivoli License Manager server. When you define the account details, you can specify an e-mail address and select the option for the account holder to receive e-mails.
Event logging and notification

See the IBM Tivoli License Manager: Administration for information on creating and updating access accounts.

The administration server and each runtime server has its own settings that control the sending of notifications. You define the parameters to be used to send notifications in the system.properties file for each server. These parameters include the name of the mail server and the e-mail address from which notifications are to be sent. You can also set one mail recipient to receive notifications in addition to the Web interface users you have defined. This additional recipient does not need to be an administrator registered on the Web interface.

The following example shows the Mail Settings section of the system.properties file.

```java
#Mail Settings
smtpServer=mailserv120.ibm.com
mailRecipient=jsmith@ibm.com
mailSender=tlm@tlmdomain.com
```

To define notification settings for a server, complete the following steps:

1. Log on to the computer where the administration or runtime server is installed.
2. Open the system.properties file in a text editor.
   The location of the system.properties file is as follows:

   **Administration server**
   ```
   <INSTALL_DIR>\admin\SLM_Admin_Application.ear
   \slm_admin.war\WEB-INF\conf
   ```

   **Runtime server**
   ```
   <INSTALL_DIR>\runtime\SLM_Runtime_Application.ear
   \slm_runtime.war\WEB-INF\conf
   ```

   **Note:** If the administration server is installed on the same computer as a runtime server, system.properties files exist in both locations. You must define settings in both files to enable both types of notification.

3. In the #Mail Settings section of the file, define the properties as follows:

   **smtpServer**
   Enter the host name or IP address of a valid SMTP server. This server will be used to forward the e-mail communications generated by the server’s notification component.

   **mailRecipient**
   You can enter an e-mail address to which notifications are to be sent. This setting is optional.

   **mailSender**
   Enter the e-mail address that is to be used by the server as the sender address when notifications are generated.

   **Note:** No e-mails are generated if the settings for the SMTP server and the mail sender are not present or not valid.

4. Save the file and close it.
5. Restart the server.
Events and notifications on the administration server

Table 9 lists the events that are logged on the administration server and indicates which events also generate an e-mail notification:

<table>
<thead>
<tr>
<th>Name</th>
<th>Event message</th>
<th>Notification</th>
</tr>
</thead>
<tbody>
<tr>
<td>ThresholdExceeding</td>
<td>The defined threshold has been reached or exceeded for the reported licenses.</td>
<td>Yes</td>
</tr>
<tr>
<td>EnrollmentExceeding</td>
<td>The maximum quantity allowed has been reached or exceeded for the reported licenses.</td>
<td>Yes</td>
</tr>
<tr>
<td>ServerStart</td>
<td>The administration server has been started.</td>
<td>Yes</td>
</tr>
<tr>
<td>ServerStop</td>
<td>The administration server has been stopped.</td>
<td>Yes</td>
</tr>
<tr>
<td>ServerInactive</td>
<td>A runtime server was found to be inactive longer than the maximum time specified.</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Events and notifications on runtime servers

Table 10 lists the events that are logged on runtime servers and indicates which events also generate an e-mail notification:

<table>
<thead>
<tr>
<th>Name</th>
<th>Event message</th>
<th>Notification</th>
</tr>
</thead>
<tbody>
<tr>
<td>LicenseGrant</td>
<td>A software license has been granted.</td>
<td>No</td>
</tr>
<tr>
<td>LicenseRegrant</td>
<td>A software license has been regranted.</td>
<td>No</td>
</tr>
<tr>
<td>LicenseOfflineGrant</td>
<td>A software license has been granted offline.</td>
<td>No</td>
</tr>
<tr>
<td>LicenseOfflineRegrant</td>
<td>A software license has been regranted offline.</td>
<td>No</td>
</tr>
<tr>
<td>LicenseOfflineUpdate</td>
<td>An offline session has been updated.</td>
<td>No</td>
</tr>
<tr>
<td>LicenseRelease</td>
<td>A software license has been released.</td>
<td>No</td>
</tr>
<tr>
<td>LicenseCleanup</td>
<td>A stale session has been cleared.</td>
<td>No</td>
</tr>
<tr>
<td>LicenseDeny</td>
<td>A software license has been denied.</td>
<td>No</td>
</tr>
<tr>
<td>UnlicensedGrant</td>
<td>An unlicensed session has started.</td>
<td>No</td>
</tr>
<tr>
<td>UnlicensedRegrant</td>
<td>The session is now unlicensed.</td>
<td>No</td>
</tr>
<tr>
<td>UnlicensedOfflineGrant</td>
<td>An unlicensed session has started offline.</td>
<td>No</td>
</tr>
<tr>
<td>UnlicensedOfflineRegrant</td>
<td>The offline session is now unlicensed.</td>
<td>No</td>
</tr>
<tr>
<td>UnlicensedRelease</td>
<td>An offline session has ended.</td>
<td>No</td>
</tr>
<tr>
<td>AgentScan</td>
<td>The results of a new scan have been received from an agent.</td>
<td>Yes</td>
</tr>
<tr>
<td>AgentInactive</td>
<td>An agent was found to be inactive longer than the maximum time specified.</td>
<td>Yes</td>
</tr>
<tr>
<td>ServerStart</td>
<td>The runtime server has been started.</td>
<td>Yes</td>
</tr>
<tr>
<td>ServerStop</td>
<td>The runtime server has been stopped.</td>
<td>Yes</td>
</tr>
<tr>
<td>ServerPlugin</td>
<td>The runtime server plugin has been accepted by the administration server.</td>
<td>Yes</td>
</tr>
<tr>
<td>WakeUpRequest</td>
<td>A request for update has been received from the administration server.</td>
<td>No</td>
</tr>
</tbody>
</table>
Events on runtime servers
Chapter 8. Problem determination tools

The Tivoli License Manager problem determination tool kit provides a set of commands that can help you understand and resolve problems. The toolkit provides two types of support:

- Tools for accessing and analyzing the problem determination information collected in the trace and message logs. See “Accessing and analyzing problem determination information.”
- Tools for assembling the information that IBM software support will need to diagnose problems. See “Assembling problem determination information” on page 45.

The servers and catalog manager have one set of problem determination tools and the agent has a more restricted set. Scripts for running the commands are installed in the Tivoli common directory for servers, catalog manager, and agents in the following location:

**Administration server**

\`\`<Tivoli_Common_Dir>\COD\scripts\admin\`

**Runtime server**

\`\`<Tivoli_Common_Dir>\COD\scripts\runtime\`

**Catalog manager**

\`\`<Tivoli_Common_Dir>\COD\scripts\catman\`

**Agent**

\`\`<Tivoli_Common_Dir>\COD\scripts\agent\`

For the servers, the commands can also be invoked from the server command line (see Appendix B, “The command line interface,” on page 131).

### Accessing and analyzing problem determination information

Table 11 shows the problem determination tools that are available for accessing and analyzing trace and message information. It indicates the logs files that can be accessed by each tool and gives a brief description of the purpose of each tool.

**Table 11. Tools for viewing trace and message information**

<table>
<thead>
<tr>
<th>Tool</th>
<th>Logs</th>
<th>Description</th>
</tr>
</thead>
</table>
| Tivoli log viewer | • Server install logs  
• Catalog manager install logs  
• Server command line messages  
• Catalog manager command line messages  
• Agent traces  
• Agent messages | This standard Tivoli problem determination tool enables you to convert trace and message information that has been created in the Log XML format to an HTML format. See “Using the Tivoli XML Log Viewer” on page 40. |
Accessing problem determination information

Table 11. Tools for viewing trace and message information (continued)

<table>
<thead>
<tr>
<th>Tool</th>
<th>Logs</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>viewer</td>
<td>• Server traces</td>
<td>This command converts the trace or message files from the formats in which they are created to the Log XML format. It then merges the converted files into a single HTML file. See “Using the viewer command” on page 41.</td>
</tr>
<tr>
<td></td>
<td>• Server messages</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Catalog manager traces</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Catalog manager messages</td>
<td></td>
</tr>
<tr>
<td>pdtool</td>
<td>• Server messages</td>
<td>This command looks for logged messages that relate to configuration or environmental problems, extracts the messages and the related explanations and recommended actions, and stores the information in an HTML file. See “Using the pdtool command” on page 43.</td>
</tr>
<tr>
<td></td>
<td>• Catalog manager messages</td>
<td></td>
</tr>
<tr>
<td>log2xml</td>
<td>• Server traces</td>
<td>This command converts the trace or message files from the formats in which they are created to the Log XML format. You can use the Tivoli log viewer to convert selected files into a single HTML file. See “Using the log2xml command” on page 44.</td>
</tr>
<tr>
<td></td>
<td>• Server messages</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Catalog manager traces</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Catalog manager messages</td>
<td></td>
</tr>
</tbody>
</table>

Using the Tivoli XML Log Viewer

The Tivoli XML Log Viewer is a standard tool available with many Tivoli products. It provides an HTML interface with log files that are created in the standard Log XML format. The following Tivoli License Manager logs are written in the Log XML format:

• The server installation trace and message logs
• The catalog manager installation trace and message logs
• Agent operation trace and message logs

The server and catalog manager trace and message logs are not written in the Log XML format, but they can be converted to the format using the log2xml command (see “Using the log2xml command” on page 44). The viewer command combines the functionality of the log2xml command and the Tivoli log viewer to convert all available traces or messages to HTML (see “Using the viewer command” on page 41). If you want to convert individual message or trace files to HTML, you can use log2xml to convert the files to Log XML format, and then use the Tivoli log viewer to convert individual files to HTML.

During installation of a server or the catalog manager, the Log Viewer setup file setup.jar is copied to the following location:

`<INSTALL_DIR>\logviewer_setup`

It is not installed with the agent, but if required can be downloaded from the following Web site:


The log viewer directory also contains a readme file, which provides detailed information about the options available for using the command, including full details of the query facility, which allows you to filter the information included in...
Accessing problem determination information

the output file. The instructions provided in this section are designed to show you
the basic usage of the tool. For full details, see the readme file.

To convert a Log XML file to HTML with a default set of columns:

1. Open a command window and change to the directory where the log
   viewer is installed.
2. Type:

   `viewer input_file > output_file`

   Where `input_file` is the full path of the XML file you want to convert
   (multiple files are accepted) and `output_file` is the full path of the HTML
   file you want to create.

The default columns are:

• Time
• Severity
• Message ID
• Log text (the message text for messages and traces is mapped to this
  element).
• Server (hostname)
• Product ID
• Component
• Product instance

The log viewer maps the Log XML elements to the appropriate columns in
the HTML report format. There are elements that occur in the log files that
are not included in this default query. If you want to include them, you
must define a custom query.

To convert a Log XML file to HTML with custom selection of columns and log
entries:

1. Open a command window and change to the directory where the log
   viewer is installed.
2. Launch the viewer, including a query to select the columns and entries
   you want to see, for example:

   `viewer input_file > output_file -q "select time, messageid, logtext,
   logattrs where severity = ERROR"`

   This query would be suitable for the conversion of a message file. It
   selects the columns that are relevant to messages, and restricts the
   messages to be included to those with severity ERROR.

Using the viewer command

You use the `viewer` command to convert the trace and message logs created by the
Tivoli License Manager server or catalog manager components to an HTML format.
For messages, the command does not only convert the native logs, it merges the
logged message IDs and parameters, which are language-independent, with text
from one of the supported languages. When converting the messages, the
command allows you to specify a locale and produces the messages in the
appropriate language for that locale. If no locale is specified, US English is used.

When you use the command, you must specify whether you want to convert the
trace or message logs. You can specify which of the trace or message files are to be
converted. If you do not specify one or more files, all trace or message files that
are found in the directory will be converted.
Accessing problem determination information

You can also specify a query. If you do not specify a query, a default query is performed. There is one default query for trace logs and a different one for messages. These queries define which columns are included in the HTML file if no custom query is specified. For trace logs, the following columns are included:

- Time:
- Log text:
- Thread
- Exception
- Source
- Log attributes

For message logs, the following columns are included:

- Time:
- Message Id
- Severity
- Log text
- Log attributes

You can define your own queries, and some examples are provided below. For full details of the structure and keywords to be used when defining queries, see the Tivoli log viewer readme file.

**To convert trace-1.log and trace-2.log using the default query:**

1. Change to the directory: `<Tivoli_Common_Dir>\COD\scripts` and then to the subdirectory admin, runtime, or catman, depending on the component you are working with.
2. Launch the command:
   ```shell
   viewer trace-1.log trace-2.log
   ```

   The viewer command converts trace files by default, so the `-t` argument is not required. It extracts the specified files from the path:
   `<Tivoli_Common_Dir>\COD\logs\trace`, converts them to the Log XML format and stores them in the same directory as the original files. It then merges the contents of all the selected XML files into a single HTML file, which it also stores in the trace directory with the name `trace-<timestamp>.html`.

**To convert the trace files with custom selection of columns and trace entries**

1. Change to the directory: `<Tivoli_Common_Dir>\COD\scripts` and then to the subdirectory admin, runtime, or catman, depending on the component you are working with.
2. Launch the command, specifying a query, for example:
   ```shell
   viewer trace-1.log trace-2.log -q "select time, logtext, thread, exception, sourcefile, where logattribs MATCH 'ERROR'"
   ```

   This query selects the columns that are most relevant to trace log information for all entries that have a trace type of ERROR.

**To convert msg-1.log and msg-2.log message files using the default query and default locale:**

1. Change to the directory: `<Tivoli_Common_Dir>\COD\scripts` and then to the subdirectory admin, runtime, or catman, depending on the component you are working with.
2. Launch the command:
   ```shell
   viewer -m msg-1.log msg-2.log
   ```
Accessing problem determination information

This command extracts the specified the message logs from the message directory: `<tivoli_common_dir>\CD\logs\message`, merges the message ID and parameter information with text in US English (the default locale), creates files in Log XML format in the en_US subdirectory of the message directory. It then merges the selected LogXML files into a single HTML file, which it stores in the same directory with the name `message-<timestamp>.html`.

To convert the message files with custom selection of columns and messages and a custom locale:

1. Change to the directory: `<tivoli_common_dir>\CD\scripts` and then to the subdirectory `admin`, `runtime`, or `catman`, depending on the component you are working with.
2. Launch the command, specifying a query, for example:
   ```
   viewer -m de msg-1.log msg-2.log -q "select time, messageid, logtext, logattribs, where severity = ERROR"
   ```

This query selects the columns that are most relevant to message log information for all messages that are of severity ERROR. The de locale is specified, so the messages are constructed using the German language bundle and the output XML and HTML files are created in the de subdirectory of the message directory.

If you have custom queries that you want to use regularly, you can store each query in a file and specify the file instead of the query string. For example, to convert the trace logs using a custom query stored in the file `errors_trace`, type:

```
viewer -f error_trace
```

For a full description of the syntax of the viewer command see “viewer” on page 145.

Using the pdtool command

The `pdtool` command is designed to help you identify problems that can be easily resolved by making a change to configuration information within Tivoli License Manager or one of its prerequisites or by making changes to the environment in which the component is installed. If this type of problem occurs, it is probable that a message will be logged. The `pdtool` command identifies and extracts any message that is relevant to this type of problem and converts it to an HTML format. The command allows you to specify a locale and produces the messages in the appropriate language for that locale. If no locale is specified, US English is used. The output file is stored in a subdirectory of the message directory relevant to the locale used, for example, en_US, fr, de.

To extract logged messages and display the message, explanation, and action in the French language:

1. Change to the directory: `<tivoli_common_dir>\CD\scripts` and then to the subdirectory `admin`, `runtime`, or `catman`, depending on the component you are working with.
2. Launch the command:
   ```
   pdtool fr
   ```

The tool checks each of the existing message files. If it finds a relevant message, it extracts the message ID and any parameters, merges the French language text into the message, and creates an HTML file in the fr subdirectory of the subdirectory of the message directory.
Accessing problem determination information

The following situations are targeted by the pdtool command:

- Resources, such as configuration files, cannot be loaded.
- A runtime server fails to plug in to the administration server.
- There are problems with establishing or maintaining a connection to the database.

This might be a temporary problem that will resolve itself, but it might also be a problem that can be resolved by changing the database or database pooler configuration. In some cases, it might be both. For example, you might experience intermittent, recurring problems in connecting to the database. Although each failure is a temporary problem that will resolve itself, if the problem recurs too frequently, you will need to increase the size of the database connection pooler.

- The e-mail notification system does not work.

In some of these cases, there might be a number of different possible causes and resolutions. The messaging component logs a message that describes the problem and the action to be taken. The pdtool command works by searching the message log files for any message that relates to one of the target problems. If it finds a relevant message, it extracts it and converts it to an HTML format. This enables quick and easy identification of the cause and resolution of targeted problems. Figure 4 shows an HTML file output by the pdtool command that identifies an error in the runtime server plug-in and suggests possible actions to resolve the problem.

<table>
<thead>
<tr>
<th>Message Id</th>
<th>Log Text</th>
<th>Log Attributes</th>
</tr>
</thead>
</table>
| CODCS8002E | The runtime server plug-in failed because the server Runtime-1 does not belong to organization IBM. | Action: Check the details in the configuration file and on the administration server Web UI and correct the mismatch as follows:  
- If the configuration values are wrong, correct them.  
- If the server has been registered for the wrong organization, delete the server record and recreate it for the correct organization.  
- If the server has not yet been registered, create a new server record on the administration server. 
Explanation: A runtime server cannot plug in to the administration server if there is not an entry in the administration server database that exactly matches the configuration information set for the runtime server at installation. 
Possible causes for the mismatch are: 
- The configuration file contains wrong values. 
- The runtime server details on the administration server have been mistakenly registered for the wrong organization. 
- The runtime server has not yet been registered on the administration server, and the existing details are for a server with the same name that belongs to a different organization. |

Figure 4. Output from the pdtool command

For a full description of the syntax of the pdtool command see "pdtool" on page 139.

Using the log2xml command

The log2xml command converts trace and message log files into the Log XML format. The functionality of this command is included in the viewer command where the conversion of the logs to Log XML is a step in their conversion to a single HTML file that includes all the trace or message logs that were converted.

You could use this command independently of the viewer command if you want to convert files to Log XML and then select individual files for input to the Tivoli log viewer. See "Using the Tivoli XML Log Viewer" on page 40.

You can use the log2xml command to convert either message or trace files. You cannot convert both with a single command.
To convert trace files to Log XML:

1. Change to the directory: `<Tivoli_Common_Dir>\COD\scripts` and then to the subdirectory `admin`, `runtime`, or `catman`, depending on the component you are working with.
2. Launch the command:
   `log2xml`

The command converts trace files by default, so no argument is required. It selects all iterations of all the trace logs (trace, error, and time) in the trace directory `<Tivoli_Common_Dir>\COD\logs\trace` and converts them to the Log XML format and stores them in the same directory as the original files.

To convert message files to Log XML and display the message, explanation, and action in the French language:

1. Change to the directory: `<Tivoli_Common_Dir>\COD\scripts` and then to the subdirectory `admin`, `runtime`, or `catman`, depending on the component you are working with.
2. Launch the command:
   `log2xml -m fr`

This command selects all iterations of the message logs in the message directory `<Tivoli_Common_Dir>\COD\logs\message`, merges the message ID and parameter information with text in French, and creates files in Log XML format in the `fr` subdirectory of the message directory.

For a full description of the syntax of the `log2xml` command see "log2xml" on page 136.

---

**Assembling problem determination information**

If you encounter a problem that requires help from IBM software support, you need to assemble information that support staff can use to diagnose the causes of the problem. Normally, this information is held in a number of different directories, for example the message and trace directories. Tools are available on all Tivoli License Manager components to collect this information from its source locations and copy it to a single location.

Table 12 shows the problem determination tools that are available for assembling problem determination information. It indicates the Tivoli License Manager components that use each tool.

<table>
<thead>
<tr>
<th>Tool</th>
<th>Components</th>
</tr>
</thead>
</table>
| statusinfo | • Administration server  
|    | • Runtime server  
|    | • Catalog manager  |
| tlmredir | • Agent  |
| ffdc   | • WebSphere Application Server agent |

### Servers and catalog manager

This section includes information about assembling information about servers and the catalog manager. It includes the following topics:
Assembling information

- “Assembling product logs and configuration information”

Assembling product logs and configuration information
The statusinfo command provides a way of collecting the trace files, configuration files, and database debug tables that can help IBM Software Support to resolve problems with the Tivoli License Manager server and catalog manager components. You can forward this information to IBM Software Support.

To collect the problem determination information for a server or catalog manager:
1. Change to the directory: `<Tivoli_Common_Dir>\COD\scripts` and then to the subdirectory admin, runtime, or catman, depending on the component you are working with.
2. Launch the command:
   **Administration and runtime servers**
   `statusinfo <database_user>`
   **Catalog manager**
   `statusinfo <database_user> <database_name>`
   The parameter `database_user` must identify a user who has at least read access to the administration or runtime server database. You can use the `tlmsrv` user. The parameter `database_name` is only relevant when using the command for the catalog manager component. This is because the catalog manager can manage more than one administration server database.

The command creates the directory:
**Administration server**
`<Tivoli_common_dir>\COD\ffdc\admin\<date and time>`
**Runtime server**
`<Tivoli_common_dir>\COD\ffdc\runtime\<date and time>`
**Catalog manager**
`<Tivoli_common_dir>\COD\ffdc\catman\<date and time>`

Where `<date and time>` is the current date and time when the command is run.

The directory has the following contents:
- `information.txt`: a file that contains general information and the date and time at which the information was gathered.
- `configuration`: a folder that contains the configuration files for the component. This is a copy of the server or catalog manager `conf` folder.
- `traceLogs`: a folder that contains the trace files for the server. This is a copy of the server log folder.
- `dbData`: a folder that contains the `.dat` files exported from the DB2 database.
- `wasLogs`: a folder that contains any WebSphere Application Server logs found in the `<INSTALL_DIR>\admin\was` or `<INSTALL_DIR>\runtime\was` folder (servers only).

Assembling information about use of system resources
If you are experiencing a serious reduction in performance on a Tivoli License Manager server computer, it is useful to collect information about the use of system resources by WebSphere Application Server. To do this you can use the
instructions in the **MustGather** documents which you can access from the WebSphere Application Server page on the IBM support site, at this link:

[http://www-306.ibm.com/software/webservers/appserv/was/support/](http://www-306.ibm.com/software/webservers/appserv/was/support/)

When the page opens, scroll down to **Other Resources**, and click the link for **MustGather: Read first**. Use the list of components and symptoms to determine the area of WebSphere Application Server for which you need to assemble information.

If you have noted memory allocation problems on the server computer, you can click the **Out of Memory** link from the list of components on this Web page.

The page that opens lists the links to platform-specific information about diagnosis of memory allocation, including instructions about how to enable collection of problem determination data when the problem is reproduced. The information collected is complex and would normally be sent directly to IBM software support. The **HeapRoots** tool can assist in the analysis of the collected data, and is available free at the following link:


### The Tivoli License Manager native agent

Problem determination information for the Tivoli License Manager agent comprises the trace and message logs that are written during agent operation. Whenever the agent stops in an orderly shutdown, the trace and message logs are automatically copied to the following directory:

`<Tivoli_common_dir>\COD\ffdc\agent\<date and time>`

**Note:** A maximum of 10 `<date and time>` subdirectories can exist at any time. After the 10th directory has been created, the next agent shutdown or run of the `ffdc` command will cause the earliest dated directory to be overwritten.

A command is also available to perform the collection of problem determination information at other times than the stopping of the agent. On Windows and UNIX platforms the command is available as a script that can be launched from the Tivoli Common Directory.

**To collect the problem determination information for an agent:**

1. Change to the directory: `<Tivoli_common_dir>\COD\scripts\agent`
2. Launch the command:
   
   `tlmredir`

**Note:** If the WebSphere Application Server agent is also installed on the node, running this command automatically invokes a similar command for the WebSphere Application Server agent.

### The WebSphere Application Server agent

Problem determination information for the WebSphere Application Server agent comprises the trace and message logs that are written during agent operation. Whenever the agent stops in an orderly shutdown, the trace and message logs are automatically copied to the following directory:

`<Tivoli_common_dir>\COD\ffdc\wasagent\<date and time>`
Assembling information

Note: A maximum of 10 `<date and time>` subdirectories can exist at any time. After the 10th directory has been created, the next agent shutdown or run of the `ffdc` command will cause the earliest dated directory to be overwritten.

A command is also available to perform the collection of problem determination information at other times than the stopping of the agent. The command is automatically invoked if the parallel command is run for the native agent (see “The Tivoli License Manager native agent” on page 47). You can also run it independently.

To collect the problem determination information for a WebSphere Application Server agent:

1. Open a command window and change to the home directory of the WebSphere Application Server agent.
2. Launch the script:
   - **Windows**
     - `WasAgentClient.bat`
   - **UNIX and OS/400**
     - `WasAgentClient.sh`

   This opens a shell from which you can launch the `ffdc` command.
3. Type:
   - `ffdc`

Note: If the WebSphere Application Server agent is not active, its command line cannot be used. In this case, use the native agent first failure capture script to gather information for the agent and the WebSphere Application Server agent. See “The Tivoli License Manager native agent” on page 47.
Chapter 9. Diagnosing problems

This chapter provides information to help you diagnose problems that have an impact on components of Tivoli License Manager. Diagnosis information is divided into the following categories:

- “Server installation and uninstallation”
- “Catalog manager installation and uninstallation” on page 54
- “Servers” on page 55
- “Server command line” on page 59
- “SSL communications” on page 59
- “Databases” on page 60
- “Agent deployment, installation, and uninstallation” on page 61
- “Agent operation” on page 64
- “WebSphere Application Server agent” on page 68
- “Web user interface” on page 68
- “Reports” on page 70
- “Catalog manager” on page 74

Problems are categorized according to the situation in which the symptom becomes visible. The cause of the problem and its solution might be in a different component, for example, a report might not include expected data because of a problem with the database or the agent.

Each problem listed includes at least one possible cause and solution. In some cases, the recommended action is to contact IBM Software Support. "Contacting software support" on page xiv contains a link to the IBM Software Support Guide, which explains how to contact IBM Software Support and what information to prepare beforehand.

Server installation and uninstallation

Symptom: Setup file cannot be launched.
On an AIX platform, you try to launch the setupaix.bin file and the following message is displayed:
Unable to load the launcher file index. Cannot open launcher file.

Cause and solution:
You are not logged on as root. Log on as root and try again.

Symptom: The installation wizard will not run
The installation wizard does not start.

Cause and solution:
There are several reasons why this might happen:
- You do not have administrative privileges to the computer where you are trying to install the product. Ensure that you are logged on as an administrator (Windows) or root (UNIX).
Diagnosis: server installation

- There is not enough disk space to create the necessary temporary files. Check the space available on the computer where you are installing the product.
- You are trying to install on a platform that is not supported. Check the list of supported platforms in IBM Tivoli License Manager: Release Notes.

Symptom: The installation wizard fails when running in unattended mode
The installation wizard fails immediately when the command is launched using the argument to take the input from an options file. If the command includes the -silent argument, no failure message is returned.

Cause and solution:
If the silent option is used, no messages are returned. You can either retry the command removing the silent option (but then, if the command does not fail, all subsequent messages will also be displayed) or you can use the following syntax:

```java -cp setupServers.jar run -options "recordFile_Install.txt" -silent```

When you rerun the command, you might get the following message:

"The wizard cannot continue because of the following error:
Response file recordFile_Install.txt format is invalid. (1001) (403)"

Check the structure of the file, for example, check that each parameter defined in the file is preceded by the "-". For example:

```-W dbInstallAdmin.portNumber="50000"```

Symptom: The installation wizard running in unattended mode on a Windows platform does not recognize the presence of the DB2 server.
If the installation wizard is used to install a database together with the prerequisite DB2 server, and it is subsequently run to install another component that requires DB2, for example a server, it does not recognize the presence of the DB2 server and fails because a prerequisite is not present.

Cause and solution:
This problem occurs if the second installation is performed from the same command window as the first. At the end of the first installation, the command window environment is not updated with the information about the newly installed DB2 server. If a second installation is then performed from the same window, it is unable to identify the presence of the DB2 server. If you run the second installation from a new command window, opened after the installation of the DB2 server has been completed, the problem is resolved.

Symptom: Installation of a database on an AIX platform fails when the installation path name includes double-byte characters.
The script that creates the database fails to run when the installation path name includes double-byte characters. The database installation log, `trace_db_servers.log`, shows that the script failed because its path could not be interpreted. The path shown in the log file is garbled.

Cause and solution:
This problem occurs when the environment settings on the target computer are set incorrectly. Settings required to run scripts are obtained from the `/etc/environment` file. It is probable that this file includes the setting:

`LC_MESSAGES=C@lft.`
Diagnosis: server installation

This setting restricts the characters that can be used in the environment to the ISO 8859-1 (ASCII) character set, and so double-byte characters cannot be used.

To resolve this problem, comment out the LC_MESSAGES=C setting and rerun the installation.

Symptom: Installation on an AIX platform fails because of a problem with temporary storage space.
The installation wizard fails almost as soon as it starts. A message is displayed: “There may not be enough temporary disk space”.

Cause and solution:
The installation requires 250 MB of free space in the /tmp directory and will fail if this space is not available. If you cannot clear sufficient space in the /tmp directory, you can specify an alternative temporary file storage location when you launch the setup command. The syntax is:

```
setupaix.bin -istempdir "<temporary_directory_path>"
```

Symptom: A Tivoli License Manager server installed on an AIX platform does not start.
The installation wizard, installing the server on an AIX platform, fails to start the server.

Cause and solution: This problem is caused by a conflict of ports used by WebSphere Application Server. The problem and its workaround are documented in the Redbook: IBM WebSphere Application Server, version 5.0 System Management and Configuration, SG24-6195. Refer to sections 6.6.2 and 6.7.2, which deal with IP port conflicts. You can access the IBM redbooks from the following site: [http://www.redbooks.ibm.com](http://www.redbooks.ibm.com)

Symptom: A Tivoli License Manager server installed on a Windows platform does not start.
The installation wizard, installing the server on a Windows platform, fails to start the server. No error condition is returned to the wizard, but the installation log shows an exception code of 1072. This code indicates that a service is marked for deletion.

Cause and solution:
This problem occurs when a Tivoli License Manager server has been uninstalled prior to the installation, and the uninstallation has failed to complete the deregistration of the old server, so it is still pending. To resolve the problem of the pending deregistration, you must reboot the computer. The new server can now be registered. You can do this as follows:

Administration server
1. Open the file <INSTALL_DIR>\admin\setup\setupAdmin.bat.
2. Copy the last line of the file:
   ```
call "%WEBSPHERE_PATH%\bin\WASService.exe"
   -add IBM_TLM_Administration_Server
   -servername IBM_TLM_Administration_Server
   ```
   and paste it into a command window.
3. Run the command.

Runtime server
1. Open the file <INSTALL_DIR>\runtime\setup\setupRuntime.bat.
2. Copy the last line of the file:

   \texttt{call \%WEBSPHERE\_PATH\%\bin\WASService.exe}
   
   \texttt{-add IBM\_TLM\_Runtime\_Server}
   
   \texttt{-serverName IBM\_TLM\_Runtime\_Server}

   and paste it into a command window.

3. Run the command.

**Symptom:** When reinstalling components (servers or databases) that have been uninstalled, the components are grayed out and cannot be selected.

This problem occurs on computers where Terminal Services is installed if the original installation and deinstallation were not both performed using the Add/Remove programs function.

**Cause and solution:**

The problem occurs because the initial installation has saved the \texttt{vpd.properties} file in a non-standard location. This is the file that identifies the components that are currently installed. It is normally stored in the system root directory (for example \texttt{C:\Windows}). The uninstall program has looked for the file in the system root directory and, not finding it, has recreated it. The uninstall process has not updated the \texttt{vpd.properties} file created at installation. This means that when the install wizard runs again to reinstall the components, it reads the \texttt{vpd.properties} file and finds that they are listed as already installed.

To resolve this situation, complete the following steps:

1. Search for all \texttt{vpd.properties} files on the computer.
2. Delete the entry in the file for Tivoli License Manager.
3. Perform the installation using the Add/Remove programs function.

**Symptom:** The WebSphere Application Server prerequisite is installed during a server installation, but WebSphere Application Server does not start.

The bundled prerequisite version of WebSphere Application Server is installed as part of the installation of a Tivoli License Manager server, but the wizard fails to start WebSphere Application Server and so cannot complete the WebSphere Application Server part of the server installation.

**Causes and solution:**

This problem occurs because an application that is already installed on the server computer is configured to listen on the default port used by WebSphere Application Server (port 9090).

To resolve this situation, complete the following steps:

1. Uninstall the Tivoli License Manager server.
2. Change the configuration of WebSphere Application Server so that it listens on a port that is not already in use.
   
   To obtain a list of free ports, issue following command:

   \texttt{Windows}
   
   \texttt{netstat -an}

   \texttt{AIX, Linux, Solaris}
   
   \texttt{netstat -an | grep \texttt{LISTEN}}

3. Reinstall the Tivoli License Manager server.
Symptom: Following the installation of an administration or runtime server the configuration of WebSphere Application Server fails.

The server is installed but the scripts that configure WebSphere Application Server have not completed successfully.

Causes and solution:

A possible cause of this problem is that the installation of WebSphere Application Server installed on the server computer is part of a federated node. The scripts that configure the WebSphere Application Server when an administration or runtime server is installed are designed to modify a local WebSphere Application Server configuration.

To resolve this situation, complete the following steps:

1. Uninstall the server.
2. Defederate the node, using the WebSphere Application Server command: deletenode.
3. Reinstall the server.

Symptom: Following the installation of an administration or runtime server the configuration of WebSphere Application Server fails.

The server is installed but the scripts that configure WebSphere Application Server have not completed successfully.

Causes and solution:

A possible cause of this problem is that the installation of WebSphere Application Server installed on the server computer is part of a federated node. The scripts that configure the WebSphere Application Server when an administration or runtime server is installed are designed to modify a local WebSphere Application Server configuration.

To resolve this situation, complete the following steps:

1. Uninstall the server.
2. Defederate the node, using the WebSphere Application Server command: deletenode.
3. Reinstall the server.

Symptom: When the browser opens at the end of the installation of a server, the logon page of the Web UI is not found.

At the end of the installation of a server, the browser automatically starts and tries to open the logon page of the server Web UI. The logon page is not found and the 404 File Not Found error is displayed.

Causes and solution:

This can occur if the Tivoli License Manager server has not correctly plugged in to WebSphere Application Server. To resolve the problem, you must regenerate the Web server plugin configurations. To do this, complete the following steps:

1. Start the WebSphere Administrator’s Console.
2. In the navigation pane, click Environment► Update Web Server Plugin.
3. On the page that is displayed, click OK.
4. Stop and restart the Tivoli License Manager server.

Symptom: Following installation of a server on a UNIX platform, an attempt to log on to the server Web UI fails with a server initialization error.

The first attempt to log on to the server Web UI fails with a message indicating a failure to initialize a server component. Using the pdtool
command indicates that there has been a failure to connect to the database. Examining the server trace files show that the database connection failed because of a wrong user name and password pair.

Causes and solution:
This problem is caused by the failure of the installation wizard to create the tlmser user during the installation of the database. The reason for this failure is that the adduser command is not included in the $PATH variable.

To resolve the problem, use the adduser command to create the tlmser user on the computer where the database is installed. To avoid this problem happening again, ensure that the adduser command is included in the $PATH on all computers where you are planning to install a database.

Symptom: The install wizard does not create the uninstall program
On AIX platforms, the install wizard can fail to create the uninstall.bin file.

Cause and solution:
This is a known shared memory problem for Java applications. It can be resolved by setting environmental variables as follows:

export LDR_CNTRL=MAXDATA=0X30000000
export EXTSHM=ON

Catalog manager installation and uninstallation

Symptom: Database configuration panel does not appear.
The Database Configuration panel does not appear and you are certain that the administration server database is not installed on the computer.

Causes and solution:
It is possible that someone has installed, and then uninstalled the database from this computer, but the uninstallation did not remove a file that recorded the presence of the database. You should check this as follows:

1. Check for the presence of a file called vpd.properties in the following locations:
   
   **Windows**
   
   %WINDIR%
   
   **UNIX** One of the following:
   
   /
   
   /home
   
2. Open the file with a text editor and see if there is a line containing the string ITLM Administration Database If there is, it indicates that the database has previously been installed on this computer, but was then uninstalled in an uninstallation that failed for some reason. The product has been uninstalled but this file has not been cleaned up properly by the uninstall wizard, as it should have been.

   Install the administration server database, and then uninstall it. This will remove the entry in the vpd.properties file. You can then install the catalog manager.
Servers

Symptom: A runtime server does not plug in (connect to the administration server).

A runtime server does not plug in after it has been installed and registered on the administration server Web UI, or a server that was previously communicating correctly with the administration server fails to plug in.

Causes and solutions:

There are a number of possible causes for this problem. The first thing to do if it occurs is to run the pdtool command on the administration server (see "Using the pdtool command" on page 43 for instructions on using the command.) If any messages regarding this problem have been logged, the command will extract them. The messages identify the specific causes or causes of the failure and recommend one or more actions to be taken. However, some of the possible causes cannot be identified by messages. Table 13 lists the problems, recommended solutions, and indicates whether the problem can be identified by the pdtool command.

Table 13. Runtime server plug-in problems

<table>
<thead>
<tr>
<th>Cause</th>
<th>Solution</th>
<th>Identified by pdtool</th>
</tr>
</thead>
</table>
| Mismatch between the organization name stored in the runtime server   | • If the server has been registered for the wrong organization on the administration server Web UI, delete the server record and recreate it for the correct organization.  
• If the value is incorrect in the communications.properties file on the runtime server, change it. | Yes                  |
| configuration and the name stored in the administration server database. Either the server has been registered for the wrong organization on the administration server Web UI or the wrong organization name was specified during installation of the runtime server. |                                                                                   |                      |
| Mismatch between the runtime server name stored in the runtime server configuration and the name stored in the administration server database. Either the server has been registered with the wrong name on the administration server Web UI or the wrong server name was specified during installation of the runtime server. | • If the server has been registered with the wrong name, you can correct it using the Manage Components: Servers task on the administration server Web UI.  
• If the value is incorrect in the communications.properties file on the runtime server, change it. | Yes                  |
### Diagnosis: servers

**Table 13. Runtime server plug-in problems (continued)**

<table>
<thead>
<tr>
<th>Cause</th>
<th>Solution</th>
<th>Identified by pdtool</th>
</tr>
</thead>
</table>
| Mismatch between the runtime server password stored in the runtime server configuration and the password specified for the server on the administration server Web UI. | The passwords must be aligned.  
- Use the **Manage Components: Servers** task on the administration server Web UI to change the password stored in the administration server database.  
- Use the command `rtpasswd` on the runtime server command line to change the password configured for the runtime server. | Yes |
| The administration server address that was specified during installation was incorrect. In this case the plug-in request does not arrive at the administration server, so no message is logged. | Change the administration server address in the `communications.properties` file. | No |
| The server fails to plug in after it has been configured for SSL communications. | See “SSL communications” on page 59 | No |
| Mismatch between the secure communications (SSL) password specified when the runtime server was installed and the value specified as the keystore password for the certificate. In this case the plug-in request does not arrive at the administration server, so no message is logged. | The passwords must be aligned.  
- Use the command `sispaswd` on the runtime server command line to change the password configured for the runtime server.  
- Use the appropriate keystore utility to change the keystore password. | No |
| Misconfiguration of the primary language environment on the runtime server can cause an apparent mismatch between the values held on the administration server and those held in the runtime server configuration.  
If an event that is logged in the administration server event log has values for runtime server name and customer that contain incorrect characters, the problem is likely to be caused by a language misconfiguration. | Check the cultural conventions, language, and keyboard settings, and ensure that they are set to the correct values.  
If they are not, you must uninstall the Tivoli License Manager server and WebSphere Application Server, and correct the settings before reinstalling WebSphere Application Server and Tivoli License Manager. | No |
| Mismatch between the server ID passed by the runtime server to the administration server and the ID that the administration server has stored in its database. This can happen if the runtime server is manually transferred to a different organization without the database being dropped and recreated or if the runtime server registration is deleted and then recreated on the administration server Web interface.  
The server has changed its identity and now the information in the runtime server database is invalid. | Do the following:  
1. Stop the runtime server.  
2. Uninstall the database component selecting the option to drop the database.  
3. Install a new runtime server database.  
4. Restart the server. | Yes |
Table 13. Runtime server plug-in problems (continued)

<table>
<thead>
<tr>
<th>Cause</th>
<th>Solution</th>
<th>Identified by pdtool</th>
</tr>
</thead>
<tbody>
<tr>
<td>The administration server has been upgraded to version 2.1 and the runtime server has not. Version 1.1 of the runtime server is not able to communicate with version 2.1 of the administration server. In normal circumstances, version 1.1.1 of the runtime server can communicate normally with version 2.1 of the administration server, but if the runtime server is upgraded to version 2.1 and then regressed to 1.1.1, the plug-in will be denied.</td>
<td>Upgrade the runtime server to version 2.1</td>
<td>No</td>
</tr>
</tbody>
</table>

**Symptom: Performance on runtime servers drops dramatically.**
A runtime server that had previously been performing normally shows a dramatic decrease in performance that lasts for about 15 to 30 minutes. The problem is repeated on other runtime servers plugged in to the same administration server.

**Causes and solutions:**
The probable cause of this problem is that the system time on the computer where the administration server is installed has been changed. Setting the system time back on the administration server computer will cause a misalignment of time settings with the connected runtime servers, with the result that the administration server performs a full download of information, including catalog, infrastructure, and licensing information to the runtime servers. The performance problem will resolve itself within about 30 minutes. However, the change in time settings will probably have caused misalignments of data in reports. For this reason, time changes should be avoided, particularly on the runtime server.

To be sure that this is the cause of the problem, check the administration server trace file:

```<Tivoli_Common_Dir>COD\logs\admin\trace\trace-n.log
```

The trace should include an entry with the trace message "Server clock has been changed."

**Symptom: After editing of the runtime server communication.properties file, communications between the runtime server and administration server fail.**
This is a problem that has been noted when the communication.properties file has been edited in some languages that use a double-byte character set (DBCS).

**Causes and solutions:**
This problem occurs because the communication.properties file has been saved in the wrong format. To resolve the problem in a Chinese environment, complete one of the following procedures depending on whether the runtime server is installed on a Windows or an UNIX platform.

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**Diagnosis: servers**

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Diagnosis: servers

On Windows platforms with the GB18030 support package installed, complete the following steps:
1. Go to the

   \<INSTALL_DIR>\runtime\SLM_Runtime_Application.ear\slm_runtime.war\WEB-INF\conf

   folder and rename the communication.properties file to communication.properties.txt.
2. Open communication.properties in Notepad.
3. Make any changes that are required and save the file, selecting the Save as Unicode checkbox in the Save As dialog.
4. Start the gbunicnv.exe application.
   This application is available in the GB18030Tools folder.
5. Complete the dialog as follows:
   - Source file  communication.properties.txt
   - Target file  communication.properties
   - Option      Convert Unicode to GB18030-2000
6. Click Convert.

On an AIX5L platform with the GB18030 patch installed, complete the following steps:
1. Go to the

   \<INSTALL_DIR>\runtime\SLM_Runtime_Application.ear\slm_runtime.war\WEB-INF\conf

   folder and rename the communication.properties file to communication.properties.txt.
2. Open communication.properties in a text editor.
3. Make any changes that are required and save the file with Unicode encoding.
4. Generate the communication.properties file using the following command:
   iconv -f UCS-2 -T GB18030 communication.properties.txt
   >communication.properties.

An administration or runtime server that has been included in a WebSphere Application Server federated node can no longer be started.
The server, which was installed with a standalone configuration of WebSphere Application Server, no longer starts when the WebSphere Application Server node has been federated. The .EAR folder for the server is no longer present in the installation path.

Causes and solution:
The only WebSphere Application Server configuration that is supported for Tivoli License Manager servers is a standalone node with WebSphere Application Server Base installed. If this configuration is changed by federating the node, the server no longer starts.

To resolve this situation, complete the following steps:
Diagnosis: servers

1. Defederate the node, using the WebSphere Application Server command: `deletenode`.
2. Replace the Tivoli License Manager configuration files held in the conf subdirectory with backup copies, because the original copies will have been corrupted. See "Recovering server configuration settings" on page 80.

Server command line

Symptom: The server command line fails to initialize but no error message is displayed.

When the command line of the administration server or a runtime server is launched it fails to start, but does not return any error condition to the Tivoli License Manager message or trace logs.

Causes and solutions:

This problem occurs when a server is installed on a computer that is unable to contact the Domain Name Server (DNS). In this case, Tivoli License Manager cannot be started and so cannot log any messages or traces. If you look at the WebSphere Application Server logs on the same computer, you will find an entry like this one:

```
WSCL0100E: Exception received: javax.naming.NamingException: Failed to initialize the ORB. Root exception is org.omg.CORBA.INTERNAL:
getLocalHost2: java.net.UnknownHostException:
fireb15: fireb15 vmcid: IBM minor code: 583 completed: No
```

The log entry identifies the problem as an unknown host exception. WebSphere Application Server has been unable to resolve the host name. It is important to select a host name that other computers in your network can reach.

SSL communications

Symptom: Communications between Tivoli License Manager are unsuccessful following the configuration of SSL.

Communication errors between servers occur after SSL has been enabled. If SSL is enabled for communications from the runtime server to the administration server, problems occur when the server tries to plug in to the administration server. If SSL is enabled for communications from the administration server to the runtime server, problems occur when the administration server tries to send a wake-up call to the runtime server.

Causes and solutions:

These problems can occur in the following circumstances:

**The host aliases have not been correctly defined for the secure port in the virtual host definition on WebSphere Application Server on the server side.**

In this case, the communication arrives successfully at the HTTP server on the server side. An exception is logged in the error log of the HTTP server reporting that the `\slmadmin` or `\slmruntime` resource was not found. A file not found exception is also logged in the trace log on the client side. If you find these log entries, you must check the virtual host definition on the WebSphere Administrator’s Console on the server computer. Make sure that host aliases have been defined for the port used for secure
Diagnosis: SSL communications

communications (by default, 443). See “Checking the WebSphere Application Server ports and aliases” on page 6. If the definitions appear to be correct, it is probable that WebSphere Application Server was not restarted after the changes were made. Stop and restart WebSphere Application Server.

The HTTP server on the client side has not been correctly configured for secure communications.

In this case, the communication is not sent to the server side. An exception reporting a connection error is logged in the trace log on the client side. If you find this log entry, you must check the virtual host definition in the httpd.conf file on the client computer and ensure that SSL has been correctly enabled. See the Configuring Tivoli License Manager chapter in IBM Tivoli License Manager: Planning, Installation, and Configuration. If the definition appears to be correct, it is probable that the HTTP server was not restarted after the changes were made. Stop and restart the HTTP server.

The certificate has not been correctly created or distributed.

If there is any problem with the certificates used to authenticate secure communications, exceptions reporting authentication errors are logged in the SSL error log of the HTTP server on the server side and in the trace log on the client side. If you find these log entries, you must check that you have correctly followed the procedures for requesting or creating certificates. See the Configuring Tivoli License Manager chapter in IBM Tivoli License Manager: Planning, Installation, and Configuration.

Databases

Symptom: Server Web interface cannot connect to the database.

After logging on to the Web interface, an error message indicating a database technical error appears.

Causes and solutions:

Some causes of this error can be identified using the pdtool command. Problems with the level or configuration of JDBC driver, the configuration of the database, or of the database pooler cause messages, which describe the cause and solution of the problem, to be recorded in the server message log and these messages will be identified and extracted by the pdtool command. See “Using the pdtool command” on page 43.

If the problem is not identified by the pdtool command, it might be caused by one of the following situations:

• DB2 services were not running during the installation process or were started after WebSphere Application Server started. You will need to do the following:
  1. Stop the server.
  2. Stop WebSphere Application Server.
  4. Uninstall the database component.
  5. Start DB2.
  7. Reinstall the database.
Diagnosis: Databases

- The install wizard did not successfully create and populate the database. On the computer where the database is installed, you will need to run the uninstall wizard to uninstall the database component and then reinstall it.
- The cataloging of the database on the server computer might not be correct. Check the cataloging and if necessary recatalog the database.

Note: If the server is on a UNIX computer, you must catalog the database even if server and database are on the same computer.
- The password held in the passwd.properties file does not match the password for the tlmser user. You can change the tlmser password using the utility for changing user passwords on your operating system or you can change the password held in the passwd.properties file, using the command dbpasswd. See “dbpasswd” on page 134.

Agent deployment, installation, and uninstallation

Symptom: The agent install wizard for OS/400 displays Message CODIN099E, indicating that the agent cannot be installed.
This message indicates that an agent is already installed on the computer and must be uninstalled before the new agent can be installed.

Causes and solutions:

On most platforms, you can make changes to the agent configuration by reinstalling it. For example if you want change runtime server or division, the normal procedure is to reinstall without the necessity to uninstall first. However, on OS/400 platforms, this is not possible because the agent configuration file, tlmagent.ini, cannot be overwritten. You must uninstall the agent. If the objective of the new installation is to change the agent parameters (division and runtime server), before you reinstall you must also manually remove the configuration file from the path:
/QIBM/UserData/QITLM/conf

Note: When you reinstall the agent, a new agent ID is generated, so previous information collected by the agent on the computer is not included in any reports for the new agent. The entry for the old agent is still present in the administration server database and cannot be immediately deleted. Agents must be recognized by the administration server as inactive before they can be deleted. Once the agent status changes to inactive, you should delete it.

Symptom: Agent deployment process hangs because of insufficient space. A Java exception occurs.

The Registration in progress message appears and after a reasonable length of time there is no message indicating success or failure. When you check the Java console, the following exception is reported:
java.io.exception. No space left on device.

Causes and solutions:

This problem occurs when there is insufficient space for the temporary storage of agent files. At least 10 MB of free space is required in the directory used by the browser for temporary storage of downloaded files. On UNIX platforms, this directory is /tmp. On Windows platforms, the directory depends on the Internet browser being used.
You might need to increase the size of the file systems where the browser is installed.

**Symptom: Agent deployment process hangs because of network traffic. A Java exception occurs.**

The Registration in progress message appears and after a reasonable length of time there is no message indicating success or failure. When you check the Java console, the following exception is reported:

```
Error loading class: com.ibm.it.rome.slm.applet.SlmInstallAgent.
```

**Causes and solutions:**

Download of the agent was unsuccessful because of network congestion. Retry the deployment later.

**Symptom: Agent files cannot be downloaded.**

Agent deployment fails with the following message:

```
Connection was reset by peer.
```

**Causes and solutions:**

This is a network connectivity problem that can be caused by an unusually high amount of traffic or by a server error. Wait for a short time and then retry the operation. If the problem persists, report the problem to the system administrator. Try deploying the agent from a different server.

**Symptom: Agent deployment process hangs after you have responded No to the Security Warnings and refused the installation of files.**

After you have responded No to the request for permission to install files on your computer, message CODIN007E should be returned. The message does not appear. Instead, the browser hangs.

**Causes and solutions:**

This problem occurs on Internet Explorer when it is using its own virtual machine. To avoid the problem, download and install the Sun Java plug-in and assign it as the default for the Internet Explorer browser.

**Symptom: No status is returned to the runtime server.**

No acknowledgement of success or failure is displayed. The following message appears:

```
Some problems occurred while sending the Agent Installation status back to the runtime server.
```

**Causes and solutions:**

Check that the agent has been installed on the node.

- On Windows, you can open the services panel from the control panel and check for Tivoli License Mgr Agent.
- On UNIX, enter the following command:
  ```
  ps -ef | grep tlmaagent
  ```
  If the agent is running a response is returned. If it is not, there is no response.

**Symptom: Agent install process returns a failure return code.**

If the agent installation program does not complete without errors, message CODIN002E is returned. The message includes a return code.

**Causes and solutions:**
Symptom: The agent does not start automatically.
After deployment on a Windows platform, the agent does not start.

Causes and solutions:
This problem occurs when the Windows Services panel is open when the deployment is performed. If the service Tivoli License Mgr agent is present but not running, you can start it manually by selecting it in the Windows service panel and clicking Start or from the command line as follows:

```plaintext
%windir%\itlm\tlmage -g
```

If the service is not present, you must use the following commands to register it and then start it:

```plaintext
%windir%\itlm\tlmage -i
%windir%\itlm\tlmage -g
```

Symptom: A certificate for secure communications is not added to the keystore.
A new certificate is sent to the agent by the runtime server, but it is not added to the keystore.

Causes and solutions:
This happens if a certificate has already been added to the keystore on the same day. Only one certificate can be added automatically on any one day.

You can either add the certificate manually using the keystore utilities or wait until the following day for the automatic update to be performed.

Symptom: Uninstallation does not remove all agent files on HPUX platforms.
After the uninstall wizard has completed successfully, the following agent files are still present:
- /stand/system.d/tlmkagent2102
- /stand/build/mod_wk.d/tlmkagent2102
- /stand/dlkm/system.d/tlmkagent2102
- /stand/dlkm/mod.d/tlmkagent2102
- /usr/conf/master.d/tlmkagent2102
- /usr/conf/km.d/tlmkagent2102
- /usr/ibm/tivoli/common/COD

Causes and solutions:
The files that are still present after uninstallation are kernel modules. System constraints dictate that deletion of this type of module must be handled by operating system commands and not by an uninstall wizard.

To remove these files, complete the following steps:
1. Reboot the computer.
2. Launch the command:
   ```plaintext
   kminstall -d <module_name>
   ```

   Where `module_name` is the name of an agent kernel extension module. The names of kernel extension modules can be obtained using the command `kminstall -s`. 
**Diagnosis: agent deployment**

**Note:** It is not necessary to remove kernel extension modules if you plan to reinstall or upgrade the agent.

**Symptom:** An error message is displayed after native installation of the OS/400 agent. When the agent is installed on the OS/400 V5R3 platform using the native OS/400 install wizard, the following message is displayed:

```
CPF35BE Product 5722SS1 V5R2M00 not supported or installed.
```

**Causes and solutions:**

You can ignore this message. It relates to a check made for the PTF on V5R3 that does not affect the installation.

**Agent deployment tool hangs during deployment using RSH/SSH.**

The agent deployment tool that runs on a Windows computer to deploy agents to UNIX nodes using the RSH or SSH networks hangs when it does not receive a response from a target node.

**Causes and solutions:**

This problem occurs in the following circumstances:

- The deployment tool is not able to contact the target node. You should check that the RSH or SSH network is available. In this case, there should be an entry in the deployment trace file `trace_agtdeploy.log`. This file is stored in the following location on the computer from which the tool is launched:
  ```
  <Tivoli_Common_Dir>\CDO\logs\install\trace
  ```
- There is no space in the `\tmp` file system on the target machine. The agent install process writes its status to the file `slmrc.log` in this file system. If the file system does not have space for this file, the status is not written and the deployment tool hangs waiting for the status to be sent.

---

**Agent operation**

For some agent problems, the symptom is detected at the server. For others, the system administrator might receive a communication from the application user on whose system the agent is running, sometimes by way of the license administrator. Some of the solutions require the system administrator to ask the application user to take some action, such as enter a specific command.

**Symptom:** A message containing an error code is displayed at the agent.

An agent messages indicates a failure of an action on the agent or a component of the agent. The message includes a numeric error code. [Table 14](#) lists the possible error codes and their meanings.

**Table 14. Agent subcomponent error codes**

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>-1</td>
<td>An attempt has been made to start an agent subcomponent that had already been started.</td>
</tr>
<tr>
<td>-2</td>
<td>An attempt has been made to stop an agent subcomponent that has not been started.</td>
</tr>
<tr>
<td>10</td>
<td>An error occurred when attempting to open the agent subcomponent database (Windows platforms only).</td>
</tr>
<tr>
<td>21</td>
<td>An error occurred in the creation of the agent subcomponent.</td>
</tr>
<tr>
<td>22</td>
<td>An error occurred while accessing the agent subcomponent.</td>
</tr>
</tbody>
</table>
Diagnosis: agent operation

Table 14. Agent subcomponent error codes (continued)

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>23</td>
<td>An error occurred while starting the agent subcomponent.</td>
</tr>
<tr>
<td>24</td>
<td>An error occurred while stopping the agent subcomponent.</td>
</tr>
<tr>
<td>25</td>
<td>An error occurred while removing the agent subcomponent.</td>
</tr>
<tr>
<td>31</td>
<td>An error occurred while registering the agent driver.</td>
</tr>
<tr>
<td>32</td>
<td>An error occurred while accessing the agent driver.</td>
</tr>
<tr>
<td>33</td>
<td>An error occurred while starting the agent driver.</td>
</tr>
<tr>
<td>34</td>
<td>An error occurred while stopping the agent driver.</td>
</tr>
<tr>
<td>35</td>
<td>An error occurred while removing the agent driver.</td>
</tr>
<tr>
<td>40</td>
<td>An error occurred while opening the Windows registry (Windows platforms only).</td>
</tr>
<tr>
<td>41</td>
<td>An error occurred while creating the Tivoli License Manager agent key in the Windows registry. (Windows platforms only).</td>
</tr>
<tr>
<td>42</td>
<td>An error occurred while reading the Tivoli License Manager agent key in the Windows registry. (Windows platforms only).</td>
</tr>
<tr>
<td>43</td>
<td>An error occurred while writing the Tivoli License Manager agent key in the Windows registry. (Windows platforms only).</td>
</tr>
<tr>
<td>44</td>
<td>An error occurred while deleting the Tivoli License Manager agent key in the Windows registry. (Windows platforms only).</td>
</tr>
<tr>
<td>50</td>
<td>An error occurred while reading the Tivoli License Manager agent main path.</td>
</tr>
<tr>
<td>51</td>
<td>An error occurred while creating the agent directory.</td>
</tr>
<tr>
<td>60</td>
<td>An error occurred while initializing the Tivoli License Manager agent.</td>
</tr>
<tr>
<td>61</td>
<td>An error was found in the Tivoli License Manager agent configuration file.</td>
</tr>
</tbody>
</table>

Causes and solutions:

If one of these problems occurs, contact IBM Software Support and report the message.

Symptom: A problem is reported with the agent configuration file.

The agent fails with message CODAG015E.

Causes and solutions:

The agent configuration file, \texttt{tlmagent.ini} has been damaged. It is possible that this has been caused by editing the file with an editor that is not UTF-8 compliant. It is also possible that invalid values have been introduced to the file when it was being edited. You can back the file up and try to correct the errors. If the problem persists, you can uninstall the agent and then redeploy it. If you do this, you must be aware that the new agent will have a different ID, so that historical information about products installed and in use on the node will be more difficult to track. If neither of these options resolves the problem, contact IBM Software Support.

Symptom: The agent fails to contact the runtime server.

The agent fails with message CODAG018E.

Causes and solutions:

Check that the indicated runtime server is available to other agents. Check it is available in the network by pinging it. Ask the application users at
agents that use the same runtime server if they have experienced the same error. If the runtime server is available to other agents, it might have been unavailable temporarily to the agent when the error occurred. Restart the agent by asking the application user to locally submit the following command:

```
%windir%\itlm\itmagent -g
```

If the problem persists, contact IBM Software Support and report the message.

**Symptom: The agent is not able to create the installed software scan.**

The installed software scan fails and the agent returns message CODAG020E, which includes an error code.

**Causes and solutions:**

Table 15 lists the possible causes and solutions for each return code that can be included in the message.

**Table 15. Inventory error codes**

<table>
<thead>
<tr>
<th>Return code</th>
<th>Possible cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>-1</td>
<td>An internal error occurred.</td>
<td>Contact IBM Software Support.</td>
</tr>
<tr>
<td>-3</td>
<td>An internal agent error occurred.</td>
<td>Contact IBM Software Support.</td>
</tr>
<tr>
<td>-10</td>
<td>An internal occurred in the scan logic.</td>
<td>Contact IBM Software Support.</td>
</tr>
<tr>
<td>10</td>
<td>The scan has been aborted by the user.</td>
<td>Retry the scan.</td>
</tr>
<tr>
<td>30</td>
<td>A scan is already in progress.</td>
<td>If necessary, try the scan again later.</td>
</tr>
<tr>
<td>31</td>
<td>There is a file containing old inventory data and it is damaged.</td>
<td>Delete the file inventory.dat and try again.</td>
</tr>
</tbody>
</table>

**Symptom: The inventory scan has been successfully completed but could not be sent to the license administrator.**

The agent fails with message CODAG023E.

**Causes and solutions:**

This problem might be a result of network congestion. Retry later. If the problem persists, contact IBM Software Support and report the message.

**Symptom: AIX products, for which hard-stop licenses have been define, hang when all licenses are in use.**

The problem affects AIX products that are based on the Tool Talk interprocess communication protocol (for example, the dtpad graphical user interface editor).

**Causes and solutions:**

The application is waiting for a Tool Talk server instance to be started, but the agent does not allow the Tool Talk server to start a server instance. Even if the application is restarted when licenses become available or the hard-stop constraint is removed, the problem remains because the Tool Talk server does not try to start the server instance again.

To resolve the problem use the `kill` command to end the Tool Talk server session (ttsession) that is related to the application or log off and log on again.
Symptom: On AIX platforms, monitoring no longer works if an earlier version of the agent has been restored following an upgrade.

The problem occurs on AIX if you upgrade the agent, for example by applying a fix, and then decide to return to the previous version. After the earlier version is deployed, use monitoring of all products failed.

Causes and solutions:

The problem is caused by fact that the kernel extension being used for use monitoring is the kernel extension of the later version. The kernel extension for the agent version most recently deployed will be applied if you reboot the computer. After reboot, the agent is able to monitor products.

On Windows platforms, license requests are denied when licenses are apparently available.

A license request that can apparently be satisfied is denied and the product is not allowed to start, when an application is started using the `runas` command on Windows.

Causes and solutions:

The problem occurs because the use of the `runas` command causes two sessions to start simultaneously. One of the sessions lasts for hardly any time, but it still causes a license request to be generated. This means that if the number of licenses currently available is not enough to satisfy both requests and the Hard Stop condition is set to Yes, the license will be denied.

Symptom: For Linux390 nodes, inconsistent capacity values are shown in the Manage Nodes function on the administration server Web UI.

In the Manage Resource: Nodes task on the administration server UI, the capacity value for a Linux390 node changes randomly between two values. The agent appears to be sending inconsistent information about the node on which it is installed.

Causes and solutions:

This problem is related to the inability of the agent to retrieve the capacity value from the hardware on Linux390 computers as it does on other platforms. In order to have the information about capacity available, you must specify the value when deploying an agent. This value is stored on the agent and sent to the runtime server at each plug-in. If there are two agents deployed on the node, they should both have the same capacity value, as this value relates to the node as a whole.

The problem occurs if different values have been specified for capacity during the deployment of the two agents. For example, if Agent 1 has capacity = 1 and Agent 2 has capacity = 2, when Agent 1 plugs in, it sends the value 1, and this is eventually recorded in the administration server database. When Agent 2 plugs in it sends the value 2, and the administration server updates its database with the new value. This series of events occurs each time the agents plug in, leading to inconsistent information on the Web UI.

To resolve this problem, determine what the real capacity value is for the node, and redeploy the agents with correct and consistent information.
WebSphere Application Server agent

Symptom: The WebSphere Application Server agent command "servers" does not show configured servers.
When the servers command is issued on a node with configured servers, it returns a result of "No servers configured", though the command had previously produced a list of the configured servers.

Causes and solutions:
This problem can occur when a change has been made on the node which requires an update of the WebSphere Application Server configuration. For example, the node has been federated or the WebSphere Application Server has been upgraded. If the command is issued while WebSphere Application Server is updating its configuration files it will be unable to identify the servers that are configured. You should wait a few minutes before reissuing the command.

Symptom: The WebSphere Application Server agent command line does not display correctly on the OS/400 platform.
When the telnet connection is opened for the WebSphere Application Server agent command line, the display is not readable. Characters are missing.

Causes and solutions:
This problem occurs if the telnet connection is opened without specifying the ASCII full screen options parameter *NEWLINE. The connection must be opened as follows:
TELNET RMTSYS(LOCALHOST) VTOPT(*NEWLINE) PORT(54321)

Web user interface

Symptom: The logon page does not appear when the correct address supplied.
When you try to connect to the server, the logon page does not appear, even though the server has been started.

Causes and solutions:
This problem can occur in the following circumstances:
• The Web server is not running.
• WebSphere Application Server is not running.
• There is more than one Web server installed on the machine where the server is installed, both are configured to use the same port, but the one that started first and is using the default port is not compatible with WebSphere Application Server. You can verify that this the cause of the problem by including port number 9081 or 9091 (the HTTP server transport ports) in the Web page address. If this is the cause, the page will be found. You can resolve the problem temporarily by stopping the Web servers restarting the one that is compatible with WebSphere Application Server. To resolve the problem permanently, you must configure the HTTP server and WebSphere Application Server to use a different port.

Symptom: The browser indicates that there is a problem with the format of the HTTP header.
When you connect to the server, the browser makes the connection and then displays a message indicating that the HTTP header is in an incorrect
format.

Causes and solutions:
This problem occurs when the browser setting for the languages in use contains an entry that is not a valid language for Tivoli License Manager. Check the browser settings for the languages and remove any entries in the languages list that are not true languages, for example, [pdf].

Symptom: A technical error is produced by the first action after logon.
After logging on, when you attempt to perform your first action, for example, selecting the customer, a technical error is generated.

Causes and solutions:
This problem occurs when the browser is not enabled for JavaScript™. Change the browser setting to enable JavaScript and try again.

Symptom: Additional windows do not open automatically.
When you log on a pop-up message appears asking you to confirm that the next page should open.

Causes and solutions:
This behavior occurs when you are using Internet Explorer 5.1. This browser is not supported and may cause other problems. Upgrade to a supported browser levels. These are:
- Internet Explorer 5.5 or higher
- Mozilla 1.4 and 1.5

This occurs if you have software activated to prevent pop-ups from opening automatically. If you want to avoid the confirmation step each time Tivoli License Manager needs to open a supplementary window, you must disable this software.

Symptom: When you log-on to a server Web interface the browser closes.
When you have entered your user name and password and clicked OK on the logon page of a server Web interface, the browser window closes.

Causes and solutions:
The normal behavior is for the logon process to open the Web interface in a child window of the browser and then to automatically close the main window where the logon page was displayed. There are several browser utilities that suppress the opening of child windows in order to avoid the automatic opening of advertisements. The behavior must be disabled by changing the settings of the utility to allow child windows to open, or, if this is not possible, by disabling or uninstalling the utility.

Symptom: The dialogs in the Web interface do not have the correct look and feel and the portfolio does not respond reliably.
When you log on to the Web interface on the administration server or a runtime server, the dialogs displayed do not have the expected appearance. When you try to select tasks in the portfolio, it does not work.

Causes and solutions:
This problem occurs because the JavaScript interpreter is disabled for the browser you are using. Change the settings to enable the JavaScript interpreter. You might have to restart the browser.

Symptom: Problems displaying a chart.
The Web interface cannot display the software use trend analysis chart.
Diagnosis: Web user interface

Causes and solutions:
This problem can occur when the administration server is installed on an UNIX platform and there is no access to an X display server. You must ensure that the administration server has access to an X display server. See the appendix on configuration of the X Display server in IBM Tivoli License Manager: Planning, Installation, and Configuration.

Software use and inventory reports do not display correctly the first time the report page is displayed. The report is often positioned wrongly on the report or only a part of the expected information is shown.

Causes and solutions:
This is caused by a known problem with Internet Explorer 5.5. which is resolved with Internet Explorer 6.0. Refreshing the page using the Refresh icon on the Web interface toolbar corrects this display problem.

Symptom: A specific search does not find an object but a general search does.
When a search is performed for an object such as a node or a division that has been created in the administration database with an ID that includes spaces, the search does not find the object. A general search with no filter applied finds the object.

Causes and solutions:
If the object was created with multiple consecutive spaces, the value entered for the search must include exactly the same number of spaces. The GUI display will separate words with a single space. This is a limitation of HTML, but the database stores the ID exactly as it was submitted.

Reports

The Level Analysis, License Compliance, and Unlicensed Use reports are empty
No data is available for the reports that use aggregated data instead of individual transactions. The administration server trace file contains the following message:

[ERROR] COM.ibm.db2.jdbc.DB2Exception: [IBM][CLI Driver][DB2/6000] SQL0552N "TLMSRV" does not have the privilege to perform operation "CREATE TABLE".

Causes and solutions:
This happens if the DB2 administrator has restricted the authorities of the DB2 ‘PUBLIC’ group, preventing users in this group from creating tables. The user ID TLMSRV, used by the administration server to perform its database operations, is in this group and so cannot create the tables needed for aggregation of data.

To resolve the problem, do the following:
• Log on as DB2 instance owner.
• Look in the DB2 error log for the DB2 error generated by the attempted to aggregate the data.
• If you find the error message: SQL0552N "TLMSRV" does not have the privilege to perform operation "CREATE TABLE", issue the following command:
  grant createtab on database to user TLMSRV
• If you find the error message: SQL0286N A default table space could not be found with a page size of at least "4096" that authorization ID "TLMSRV" is authorized to use., issue the following command:
  
  ```
  grant use of tablespace USERSPACE1 to user TLMSRV
  ```

**Symptom: Products are missing from the software use reports.**

Products that you know have been in use on monitored nodes do not appear in the software use reports.

**Causes and solutions:**

There are several possible causes for this:

• **The product is not in the Tivoli License Manager master catalog.**

  Only products that are included in the master catalog can be included in any Tivoli License Manager reports. Unregistered products will not appear in either the software use or inventory reports. You can check whether a product is in the master catalog, by looking in the list of products for selection on any of the Tivoli License Manager reports.

  Unregistered products that are detected by the agents are included in the unknown file lists which is forwarded by runtime servers to the administration server. This information is stored in the administration server database. You can extract it together with the current version of the master catalog and use the catalog manager tool to add new entries to the catalog.

• **The product is not in the list of files used by the agent on the monitored node.**

  The agent compiles the list of files to be monitored when it performs an installed software scan of the node. Files detected by the scan that match entries in the master catalog are included in the list of products whose use is to be monitored. If you have recently installed a product this is a likely cause for the problem or if you recently updated the catalog to include a product that is installed on the node but which was not in the original catalog. The next time an installed software scan is performed, the product will be added to the list of monitored files. If you do not want to wait for the next scheduled scan, you can request a scan locally on the node by issuing the command:

  ```
  tlmagent -ps
  ```

• **The product is not in the runtime server cache of monitored products.**

  The first time the runtime server receives details of a product either as a part of an installed software scan or as a license request, it has to add the details to its cache of monitored products. The details are stored by the server to be added to the cache at the next update and the product is allowed to start but is not monitored. Any session of the product that starts before the cache is update is handled in the same way. By default, the runtime server cache is updated on a daily basis.

• **The product has more than one module and the module detected by the agent is not included in the master catalog.**

  If the list of products in the report wizard does include the product that is missing from reports, a likely reason is that the master catalog has incomplete information about the modules that are part of the product. Because of this the module will have been included in the list of unknown files.
Diagnosis: reports

Check the name of the module, then use the catalog manager to update the master catalog. Find the module in the list of unknown files and associate it with the catalog entry for the product.

- The name of the module is incorrectly interpreted by the agent because of inconsistent language settings, and for this reason cannot be matched with an entry in the catalog.

This problem occurs on multiuser UNIX computers where languages with different character sets are in use, and the users are not all using the default character encoding settings.

The agent interprets the information from the file using the default character encoding settings. If the user who created the file is not using these settings, the character interpretation will not be correct.

To avoid this problem, ensure that the character encoding settings for all users are aligned with the system default settings, as follows:

System
\[ LC\_CTYPE = language,UTF-8 \]

User
\[ LANG = language,UTF-8 \]
\[ LC\_ALL = language,UTF-8 \]

where language is a variable that can be different for each user.

Symptom: Software use reports show a lower number of sessions in use than expected.

For some products, the software use snapshot on the administration server interface and the real-time software use report on runtime server interfaces do not report as many sessions as you expected to see.

Causes and solutions:
1. Some software products do not open multiple sessions even when the product is selected multiple times. Instead, the new request is added to the existing session. Though you might see icons for multiple instances of the product, if you check the processes that are running, the list will show only one process for the product module.
2. Sessions that you expected to see were already active when the agent started. On all platforms except Windows and Solaris, the agent detects only the starting of an application and is not able to detect applications that are already active.

Symptom: Data is missing from historical reports.

Updated information is missing from the software use and inventory reports on the administration server.

Possible causes and solutions:

This problem might be caused by a runtime server stopping or by a failure of communication between runtime server databases and the administration server database.

- If the runtime server has been stopped or has become inactive. In both cases, administrators will have received event notification and the event will be logged in the event log. The runtime server event log will show the event for stopping the server. The administration server event log will show the event that is generated when a runtime server has been active for more than a configurable length of time. You can restart the server either using the WebSphere Administrator’s Console or by issuing
Diagnosis: reports

the `srvstart` command from the Tivoli License Manager command line. See Appendix B, “The command line interface,” on page 131.

- If the runtime server has only recently been installed, the problem might be caused by mistakes made during the installation and configuration of the runtime server database. This requires the same checks and actions as described for the previous problem where the administration server database could not be accessed by the administration server Web interface.

- If there has previously been successful communication between the databases and if the problem affects data from all runtime servers, the problem is probably caused by a data mismatch following the re-creation or restoration of the administration server database.

To resolve this problem, you must drop all runtime server databases and re-create them. To do this, for each runtime server you must stop the server, uninstall the server database component, drop the database, reinstall the database using the wizard, and restart the server.

**Symptom: Software and license use data appears unusually high.**

Historical reports show unusually high levels of use of software and licenses during a distinct period.

**Causes and solutions:**

If the system clock on the administration server computer is moved back, a situation will occur where two sets of data are collected for the same dates and times. For example, on the 2nd March, the server clock is moved back by 24 hours, making the date the 1st March. Data collected during the next 24 hours will be added to data already collected for the 1st March. The two sets of data will be indistinguishable in the reports. This situation cannot be recovered and the historical data for the repeated period will remain unreliable. Data collected after the repeated period is reliable.

You are advised not to change the date and time on the administration server computer.

**Symptom: Software use reports produced at release level show software use assigned to the wrong product release.**

In a situation where there are two releases of the same product installed on the same computer, the software use shown in the reports is not always assigned to the correct release.

**Causes and solutions:**

This problem can arise because of the structure of the catalog used by Tivoli License Manager. In the catalog, it is possible for a module that is used for software use monitoring to be assigned to more than one release of a product. This is a design feature that is included to deal with a common situation where an executable file with the same name is used for several releases and fix-pack levels. A module is defined with the appropriate file name and a size of 0. Using this definition, the agent does not consider the size of the executable file, only its name. This design resolves the problem of keeping in step with upgrades and fixes of monitored products, but it has the drawback that if two releases of a product are installed on the same computer, and this monitoring feature is in use for the product, the agent is not able to determine which of the two releases is in use.

If you can, uninstall one of the product releases. Otherwise, the only way to differentiate between the two releases is to use the catalog manager to
define specific modules with accurate file sizes and link them to the releases you have installed. For more information and instructions for making changes to the catalog, see IBM Tivoli License Manager: Catalog Management.

**Symptom:** Historical reports show periods of software use that are not of the expected duration.
Sessions of software use are longer or shorter than expected.

**Causes and solutions:**
This problem can occur when the start event and stop event for a session are passed to the administration server in separate packets. If one of the packets is sent during a period of high activity it could take some minutes before it arrives at the administration server. This delay will result in the administration server registering the start or stop event as occurring later than it actually did. This means that the use period shown in the report is shorter if the start event is affected or longer if it is the stop event that is affected.

---

**Catalog manager**

**Symptom:** One or more entries in the unknown file table appear to be corrupted.
The data collected by the agent and added to the unknown files table is not comprehensible.

**Causes and solutions:**
This problem occurs on multiuser UNIX computers where languages with different character sets are in use, and the users are not all using the default character encoding settings.
The agent interprets the information from the file using the default character encoding settings. If the user who created the file is not using these settings, the character interpretation will not be correct.
To avoid this problem, ensure that the character encoding settings for all users are aligned with the system default settings, as follows:

**System**

```
LC_CTYPE = language.UTF-8
```

**User**

```
LANG = language.UTF-8
LC_ALL = language.UTF-8
```

where `language` is a variable that can be different for each user.
Chapter 10. Performance

The performance of Tivoli License Manager can be affected by the following factors:

- “Network traffic”
- “Database performance”
- “System processes” on page 76
- “Client-server communication timeout settings” on page 76
- “HTTP configuration” on page 77
- Tivoli License Manager configuration settings. See IBM Tivoli License Manager: Planning, Installation, and Configuration for information and advice about configuration settings.

Network traffic

The control of network traffic and the prevention of periodic surges of activity must be your objectives when you set up your monitoring infrastructure and define configuration settings for your Tivoli License Manager servers.

IBM Tivoli License Manager: Planning and Configuration provides some guidelines for designing your monitoring infrastructure. Default configuration settings are provided and you do not need to change these. If you wish to make changes, do so with care and ensure that your changes do not unnecessarily increase the load on the network. For example, do not reduce periods between uploads or downloads of data too much.

If you have installed a database on a separate computer from its associated Tivoli License Manager server, database accesses can become a bottleneck. To minimize this, ensure that there is a high-speed connection between the database and server computers.

Database performance

Performance of the DB2 databases will be reduced if access to tables is not optimized or if certain database tables become too large.

Optimized access to database tables in a DB2 database depends on the availability of up-to-date statistics. When rows are added, deleted, or changed the statistics become out of date and therefore less useful in managing efficient access to data. Performance of database operations will worsen noticeably. To maintain levels of performance, you should update the statistics regularly, about once a week. You update the statistics by running the DB2 runstats command.

The performance of the administration server Web interface will be reduced if table sizes in the administration database become too large. Most of the database tables are reasonably static as they include information that the administrator defines. However tables that store information about services and about software and license usage are continually updated by internal processes:

A reduction in performance of the software usage reports is a symptom that the table containing usage information have become too large.
Performance

Cleanup processes are provided for these tables. The cleanup of the services runs at automatically set intervals, which cannot be changed. You can schedule the clean up of the usage tables to run at intervals that are suitable to the size of your Tivoli License Manager implementation. See the IBM Tivoli License Manager: Planning, Installation, and Configuration for information about database table clean-up.

System processes

The administration and runtime servers run on top of WebSphere Application Server. They all run in different Java virtual machines. You should keep track of system resource usage, in particular memory and I/O, especially on heavily loaded computers. To check the use of resources by the Tivoli License Manager servers, you will need their process IDs. You can obtain the process ID for a server by clicking it on the WebSphere Administrator’s Console.

Client-server communication timeout settings

Timeout settings that are too low to deal with the volume of requests from the client to the server cause performance problems, and possibly loss of data. If the timeout period is too short, the connection between client and server will be closed before the request has been served. In this case, a socket timeout exception will be logged in the trace log on the server side.

Table 16 shows the settings that impact timeouts and their default values.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>The HTTP Server timeout setting on the server side</td>
<td>300 seconds</td>
</tr>
<tr>
<td>The WebSphere Application Server transport IO timeout on the server side</td>
<td>60 seconds</td>
</tr>
<tr>
<td>The WebSphere Application Server Java HTTP client connect timeout on the client side (WebSphere Application Server version 5.1.x only).</td>
<td>300 000 milliseconds</td>
</tr>
<tr>
<td>The WebSphere Application Server Java HTTP client read timeout on the client side (WebSphere Application Server version 5.1.x only).</td>
<td>300 000 milliseconds</td>
</tr>
</tbody>
</table>

For most communications between the administration and runtime servers, the runtime server is the client and the administration server is the server. For the server wakeup service, the administration server is the client and the runtime server is the server.

If a socket timeout exception occurs during a transaction, you should contact IBM Software Support. Support staff will provide guidelines for new levels of timeout. You must then increase the timeout periods as follows:

**HTTP Server timeout (server side)**

To change this setting, complete the following steps:

1. On the server computer, change to the directory: `<HTTP_INSTALL_DIR>conf`
2. Open the file `httpd.conf` in a text editor.
3. Find the setting `timeout` and change its value to the required value.

**WebSphere Application Server transport IO timeout (server side)**

To change this setting, complete the following steps:

1. On the server computer, start the WebSphere Administrator’s Console.
2. Click Servers.
3. Click Application Servers.
4. Select the Tivoli License Manager server (the administration server, unless the service that timed-out was the wakeup service).
5. Click Web Container.
6. Click Custom Properties.
7. Change the value of the property ConnectionIOTimeout.

**WebSphere Application Server Java HTTP client timeouts (client side — WebSphere Application Server version 5.1.x only)**

To change these setting, complete the following steps:
1. On the client computer, start the WebSphere Administrator’s Console.
2. Click Servers.
3. Click Application Servers.
4. Select the Tivoli License Manager server (the runtime server, unless the service that timed-out was the wakeup service).
5. Click Process Definition.
6. Click Java Virtual Machine.
7. Click Custom Properties.
8. Change the values of the properties
   - `sun.net.client.defaultConnectTimeout`
   - `sun.net.client.defaultReadTimeout`.

**HTTP configuration**

Performance of runtime servers responding to multiple concurrent requests will be unsatisfactory if the HTTP configuration setting for the default size of thread pool is too low.

In the `httpd.conf` file, ensure that the parameter that controls this is set to at least 150. The name of the parameter is:

**Windows**

`ThreadsPerChild`

**AIX**

`MaxClients`

The location of the file is `<HTTP_INSTALL_DIR>/conf`.
Chapter 11. System recovery

This chapter includes procedures for recovery when databases or configuration files become damaged. It includes the following sections:

- “Recovering from data corruption”
- “Recovering server configuration settings” on page 80
- “Managing runtime server outages” on page 81

Recovering from data corruption

In order to keep the loss of data to a minimum when database tables are damaged, you should schedule regular backups (about once a week) of the Tivoli License Manager administration server database. The administration server must be stopped during the backup, which should take 1 to 2 hours, depending on the size of the database. The runtime servers do not need to be stopped during the backup of the administration server database.

No backup of runtime server databases is needed. The runtime server must never be restored from backup. Restoring a backup of a runtime server database would almost certainly lead to inconsistencies in data between the runtime server and the administration server. It must always be dropped and recreated.

When a runtime server plugs in to the administration server after creation of its database, it downloads all the catalog, infrastructure, and licensing information required to populate the database. In this way, the information held in the runtime server database is exactly aligned with the information held in the administration server database.

If the administration server database is corrupted, complete the following steps:

- Stop the administration server.
- Restore the backup copy of the database.
- Uninstall each runtime server database component, selecting the option to drop the database.
- Install the each runtime server database.
- Restart the administration server.
- Restart the runtime servers.

If a runtime server is corrupted, complete the following steps:

- Stop the runtime server.
- Uninstall the runtime server database component, selecting the option to drop the database.
- Install the runtime server database.
- Start the runtime server.

For details on planning, implementing, and optimizing backup and restore procedure for DB2 databases, see IBM DB2 Universal Database: Data Recovery and High Availability Guide and Reference.
Recovering from data corruption

Note: If you have not maintained backup copies of the administration server database, you must uninstall and reinstall all servers, database, and agents.

Recovering server configuration settings

The command line interfaces for the administration server and runtime servers include commands for backing up and restoring the Tivoli License Manager server configuration files. When the administration server or a runtime server is installed on a computer, the installation process immediately runs the command backup command and creates a copy of the initial settings in the following location:

Administration server

<INSTALL_DIR>\admin\AdminBackupConf

Runtime server

<INSTALL_DIR>\runtime\RuntimeBackupConf

If you make changes to a server configuration file, you should first restart the server to ensure that the properties file has been saved in a valid format and that any settings you redefined have all been assigned valid values. If you find that the changes have introduced errors into the configuration files, you can immediately restore the original configuration by starting the server command line and running the command:

restoreconf

Errors in the format of the file should be immediately evident, causing the server initialization to fail. However, to be sure that the settings you have changed are valid you must wait and check that the server acts as you expect it to on the basis of the configuration changes you have made. For example, if you have changed a download period between servers or between runtime server and agent, you should wait to see that the download is performed as expected. When you are sure that the configuration you have defined is valid, you can save a backup of the new configuration by starting the server command line and running the command:

backupconf

The backup of the configuration you have defined is then available for restoring if a problem occurs that makes the configuration files unusable.

For information about the Tivoli License Manager configuration settings and valid ranges of values, see the appendix on configuration in the IBM Tivoli License Manager: Planning, Installation, and Configuration.

Note: If, on the computer where the server is installed, the group of users with administrator rights is not called Administrators, running these commands creates directories that do not have the correct restrictions to access. In this case, you must add the following steps to your procedures for backing up and restoring configurations:

- After creating a backup of the configuration, issue the following command:
  cacls %TLM_BK_CONF_PATH% /T /P <Administrators>:F
- After restoring a backup of the configuration, issue the following command:
  cacls %TLM_WAR_CONF_PATH% /T /P <Administrators>:F
Managing runtime server outages

Runtime server outage can be planned and managed to avoid temporary unavailability of licenses on servers that are being maintained, as follows:

1. On the administration server Web UI, open the Manage components + Servers task, select the server that is to be put into outage, click Maintain, and select a backup server.
   The licenses allocated to the server that is to be put into outage will be copied to the backup server.

2. Wait for the server maintenance status on the administration Web UI to change to Ready. This indicates that the licenses are now available on the backup server.

3. Stop the server.
   During the time that the server is stopped, the agents can request licenses from the backup server, provided that they are configured with the correct request scope.

4. Perform any maintenance tasks that are needed. You can also uninstall, drop, and recreate the runtime server database.

5. Restart the server, and use the task on the Web UI to change the server maintenance status to Returning. Licenses are then restored from the backup server.

Notes:

1. The aim of this function is to ensure that the quantity of licenses available is not reduced because of server outage. The licenses are immediately copied to the backup server, but until original server is either stopped or receives the updated information about license allocation from the administration server, more licenses will be available than actually exist.

2. Enabling the Wake-up service in the administration server system.properties file will significantly reduce the time in which licenses are available on both the original and backup servers.

3. The request scope of agents, which determines from which runtime servers they can request licenses, must be taken into account when using this function. The request scope is a setting in the agent settings section of the system.properties file of the runtime server with which the agents are registered. It can have the following values:

   0   Only contact the server with which the agent is registered. If this setting is in use, the outages function will have no effect, the agents will not be able to contact the backup server.

   1   Contact servers that serve other agents in the same division. If this setting is in use you must take care to ensure that all divisions served by the original server are also served by the backup server.

   2   Contact any servers for the organization. If this setting is in use, you can select any runtime server as a backup.
Appendix A. Message reference

This appendix provides a reference of the messages generated and logged by the components of Tivoli License Manager. It includes the following sections:

- “Server and database installation messages”
- “Administration and runtime server errors” on page 93
- “Administration and runtime server warnings” on page 103
- “Server command line messages” on page 111
- “Catalog manager error messages” on page 118
- “Catalog manager warning messages” on page 123
- “Catalog manager command line messages” on page 123
- “Agent messages” on page 125
- “WebSphere Application Server Agent messages” on page 127
- “OS/400 agent messages” on page 127

Server and database installation messages

CODIN0001E The registration of the database has failed.
If, after reviewing the log files, the answer to the problem is still not clear, contact IBM Software Support.

Explanation: See message text.
Action: See message text.

CODIN0002E A previous version of the catalog manager is installed.
Uninstall it before installing this version.

Explanation: See message text.
Action: See message text.

CODIN0003E Only a user with administrator rights can install IBM Tivoli License Manager.
Log on with administration rights and try again.

Explanation: See message text.
Action: See message text.

CODIN0004E You have used characters that are not valid for a password. Valid characters are: A-Z a-z 0-9 + - =
Correct the value you typed.

Explanation: See message text.
Action: See message text.

CODIN0005E You have included characters that are not valid. Characters that are not allowed are: /?;#*= space
Correct the value you typed.

Explanation: See message text.
Action: See message text.

CODIN0006E The directory name is not valid. A directory name cannot contain the following characters: %<>?;*=+
Correct the value you typed.

Explanation: See message text.
Action: See message text.

CODIN0007E The password exceeds the maximum length of 20 characters.
Correct the value you typed.

Explanation: See message text.
Action: See message text.

CODIN0008E The passwords do not match.
Correct the value you typed.

Explanation: See message text.
Action: See message text.

CODIN0009E The supplied password is incorrect.
Correct the value you typed.

Explanation: See message text.
CODIN0010E  The password must be supplied. Enter a valid password.
Explanation: See message text.
Action: See message text.

CODIN0011E  The host name must be supplied. Enter a valid host name.
Explanation: See message text.
Action: See message text.

CODIN0012E  The port number must be supplied. Enter a valid port.
Explanation: See message text.
Action: See message text.

CODIN0013E  At least one required value has not been supplied. Enter the missing value or values.
Explanation: See message text.
Action: See message text.

CODIN0014E  The organization name must be supplied.
Explanation: See message text.
Action: See message text.

CODIN0015E  The runtime server name must be supplied.
Explanation: See message text.
Action: See message text.

CODIN0016E  The port must be an integer value in the range 0-65535.
Explanation: See message text.
Action: See message text.

CODIN0017E  At least one component must be selected.
Explanation: See message text.
Action: See message text.

CODIN0018E  An error occurred during the creation of the user "tlmsrv". The user "tlmsrv" has not been created. It is probable that the password you supplied did not respect the password rules for this computer. Check the install log for more information. See Tivoli License Manager: Planning, Installation and Configuration for details of the remedial action.
Explanation: See message text.
Action: See message text.

CODIN0019E  The database administration user for the computer on which you are installing must be supplied.
Explanation: See message text.
Action: See message text.

CODIN0020E  The database name must be supplied.
Explanation: See message text.
Action: See message text.

CODIN0021E  The field has not been supplied, or contains only spaces. Enter a valid value.
Explanation: See message text.
Action: See message text.

CODIN0022E  An internal technical error occurred during database creation or migration. If you cannot resolve the problem using the information in the install logs, contact IBM Software Support.
Explanation: See message text.
Action: See message text.

CODIN0023E  An error occurred while creating the runtime server database. If you cannot resolve the problem using the information in the install logs, contact IBM Software Support.
Explanation: See message text.
Action: See message text.

CODIN0024E  An error occurred while registering the runtime server database. If you cannot resolve the problem using the information in the install logs, contact IBM Software Support.
CODIN0025E  An error occurred while registering the runtime server database.
If you cannot resolve the problem using the information in the install logs, contact IBM Software Support.

Explanation: See message text.
Action: See message text.

---

CODIN0026E  An error occurred while registering the runtime server database.
If you cannot resolve the problem using the information in the install logs, contact IBM Software Support.

Explanation: See message text.
Action: See message text.

---

CODIN0027E  An error occurred while populating the runtime server database.
If you cannot resolve the problem using the information in the install logs, contact IBM Software Support.

Explanation: See message text.
Action: Consult the main installation log and the database installation log. If you cannot resolve the problem, contact IBM Software Support.

---

CODIN0028E  An internal error occurred while setting up the runtime server database.
Contact IBM Software Support.

Explanation: See message text.
Action: See message text.

---

CODIN0029E  An error has occurred because you have attempted to migrate the runtime server. The runtime server cannot be migrated.
The version 1.1.1 runtime server and its database must be uninstalled. Then the version 2.1 server and database can be installed.

Explanation: See the installation logs for more details.
Action: See message text.

---

CODIN0030W  A problem occurred while binding the runtime server database. The database is in a usable state but will be a little slow the first time it is used.

Explanation: See message text.
Action: None.

---

CODIN0031E  An error occurred while creating the administration server database.
If you cannot resolve the problem using the information in the install logs, contact IBM Software Support.

Explanation: See message text.
Action: See message text.

---

CODIN0032E  An internal error occurred while registering the administration server database.
Contact IBM Software Support.

Explanation: See message text.
Action: See message text.

---

CODIN0033E  An error occurred while cataloging the node for administration server database.
If you cannot resolve the problem using the information in the install logs, contact IBM Software Support.

Explanation: See message text.
Action: See message text.

---

CODIN0034E  An error occurred while cataloging the administration server database.
If you cannot resolve the problem using the information in the install logs, contact IBM Software Support.

Explanation: See message text.
Action: See message text.

---

CODIN0035E  An error occurred while populating the administration server database.
If you cannot resolve the problem using the information in the install logs, contact IBM Software Support.

Explanation: See message text.
Action: See message text.
CODIN0036E  An internal error occurred while setting up the administration server database.
Contact IBM Software Support.

Explanation: See message text.
Action: See message text.

CODIN0037E  An error occurred while upgrading the administration server database.
If you cannot resolve the problem using the information in the install logs, contact IBM Software Support.

Explanation: See message text.
Action: See message text.

CODIN0038W  A problem occurred while binding the administration server database. The database is in a usable state but will be a little slow the first time it is used.

Explanation: See message text.
Action: None.

CODIN0039E  The WebSphere Application Server could not be configured or was not running.
If you cannot resolve the problem using the information in the install logs, contact IBM Software Support.

Explanation: See message text.
Action: See message text.

CODIN0040E  The WebSphere Application Server configuration has not been removed.
The uninstallation was successful, but you must manually remove the configuration of the Tivoli License Manager server or servers from the WebSphere Application Server. Click "Finish" to exit.

Explanation: See message text.
Action: See message text.

CODIN0041E  The WebSphere Application Server could be not be started.
See the Tivoli License Manager documentation for diagnosis and recovery information.

Explanation: See message text.
Action: See message text.

CODIN0042W  No supported version of IBM WebSphere Application Server can be found on this computer (supported versions are 5.0.2.1, 5.0.2.2, and 5.1).
If any version of WebSphere Application Server is already installed on this computer, you should not let the wizard install the bundled prerequisite version, because the installation will fail. If you want to install the bundled version of WebSphere Application Server on the same computer as an existing version, you must do so by installing it separately, configuring it to use different ports than the existing version. Then retry the Tivoli License Manager installation.

Explanation: See message text.
Action: See message text.

CODIN0044W  The runtime server database already exists.
You must finish the installation and then perform the following steps:
1. Uninstall the database (and the runtime server if already installed).
2. Drop the runtime server database.
3. Reinstall the runtime server database followed by the runtime server, or reinstall them both together on the same computer.

Explanation: See message text.
Action: See message text.

CODIN0045W  The administration server database already exists.
- If you are reinstalling the same version of the database you can finish the installation and the existing database will be valid.
- If you are attempting to migrate the administration server database from version 1.x, you must exit from the wizard, and follow the instructions for migrating the database.
Otherwise, finish the installation and then perform the following steps:
1. Uninstall the database (and the administration server if already installed).
2. Drop the administration server database (TLMA).
3. Reinstall the administration server database followed by the administration server, or reinstall them both together on the same computer.

Explanation: See message text.
CODIN0046W  No supported version of the server component of IBM DB2 UDB can be found on this computer (supported versions are 7.2.0 with fix pack 10a, and 8.1). If any version of DB2 is already installed on this computer, you must not let the wizard install the bundled prerequisite version, because the installation will fail.

Explanation: See message text.
Action: See message text.

CODIN0047W  No supported version of IBM DB2 UDB can be found on this computer (supported versions are 7.2.0 with fix pack 10a, and 8.1). If any version of DB2 is already installed on this computer, you must not let the wizard install the bundled prerequisite version, because the installation will fail.

Explanation: See message text.
Action: See message text.

CODIN0052E  The IBM WebSphere Application Server directory name cannot contain the following characters %<>?;*=+
Correct the value you typed.

Explanation: See message text.
Action: See message text.

CODIN0053E  The IBM HTTP Server directory name cannot contain the following characters %<>?;*=+
Correct the value you typed.

Explanation: See message text.
Action: See message text.

CODIN0054E  The IBM WebSphere Application Server directory name must be supplied.

Explanation: See message text.
Action: See message text.

CODIN0055E  The IBM HTTP Server directory must be supplied.

Explanation: See message text.
Action: See message text.

CODIN0056E  You do not have write permission to the IBM WebSphere Application Server directory. Change the properties of the directory.

Explanation: See message text.
Action: See message text.

CODIN0057E  You do not have write permission to the IBM HTTP Server directory. Change the properties of the directory.

Explanation: See message text.
Action: See message text.

CODIN0058E  The administration user ID has not been supplied or contains only spaces. Enter a valid user ID with administrator rights.

Explanation: See message text.
Action: See message text.

CODIN0059E  The IBM DB2 directory cannot contain the following characters %<>?;*=+
Correct the value you typed.

Explanation: See message text.
Action: See message text.

CODIN0060E  The IBM DB2 directory must be supplied.

Explanation: See message text.
Action: See message text.

CODIN0061E  You do not have write permission to the IBM DB2 directory. Change the properties of the directory.

Explanation: See message text.
Action: See message text.

CODIN0062E  The DB2 user ID has not been supplied, or contains only spaces. Enter a valid DB2 administration user ID.

Explanation: See message text.
Action: See message text.

CODIN0063E  The administration server could not be started. See the Tivoli License Manager documentation for diagnosis and recovery information.
Click "Finish" to exit.

**Explanation:** See message text.

**Action:** See message text.

---

CODIN0064E  The runtime server could not be started.
See the Tivoli License Manager documentation for diagnosis and recovery information.
Click "Finish" to exit from the wizard.

**Explanation:** See message text.

**Action:** See message text.

---

CODIN0065E  The runtime server could not be registered with the administration server.
See the Tivoli License Manager documentation for diagnosis and recovery information.
Click "Finish" to exit.

**Explanation:** See message text.

**Action:** See message text.

---

CODIN0066E  The administration server could not be configured on WebSphere Application Server.
See the Tivoli License Manager documentation for diagnosis and recovery information.
Click "Finish" to exit.

**Explanation:** See message text.

**Action:** See message text.

---

CODIN0067E  The runtime server could not be configured on WebSphere Application Server.
See the Tivoli License Manager documentation for diagnosis and recovery information.
Click "Finish" to exit.

**Explanation:** See message text.

**Action:** See message text.

---

CODIN0068E  The runtime server could not be configured on WebSphere Application Server.
See the Tivoli License Manager documentation for diagnosis and recovery information.
Click "Finish" to exit.

**Explanation:** See message text.

**Action:** See message text.

---

CODIN0069W  Do you want to drop the database tables of the selected component?
Do not drop the tables unless you are sure that you will not need to use them again.

**Explanation:** See message text.

**Action:** See message text.

---

CODIN0070E  The agent has not been successfully installed.
See the Tivoli License Manager documentation for diagnosis and recovery information.
Click "Finish" to exit.

**Explanation:** See message text.

**Action:** See message text.

---

CODIN0071E  DB2 has not been successfully installed, or is not correctly configured, or could not be started.
See the DB2 documentation for diagnosis and recovery information.

**Explanation:** See message text.

**Action:** See message text.

---

CODIN0072E  Websphere Application Server has not been successfully installed, or is not correctly configured, or could not be started.
See the WebSphere Application Server documentation for diagnosis and recovery information.

**Explanation:** See message text.

**Action:** See message text.

---

CODIN0073E  The port you have chosen for DB2 is already in use by another service.
Select another port.

**Explanation:** See message text.

**Action:** See message text.

---

CODIN0074E  The port you have chosen for DB2 is already in use by another service.
Select another port.

**Explanation:** See message text.

**Action:** See message text.

---

CODIN0075E  The fenced port could not be assigned.
A fenced port must be assigned a number at least 10 digits higher than the selected Database port (for port 50000, ports 50010 and upwards). No ports in this range are available.
Change the Database port to a lower value.

**Explanation:** See message text.

**Action:** See message text.
CODIN0078E  WebSphere Application Server cannot install the bundled IBM HTTP Server and configure it to listen on its default port 80 because this port is already in use by another Web server. Stop the process on port 80 and complete the installation, which will automatically configure WebSphere Application Server to use the bundled version of the IBM HTTP server, configured to listen on port 80. If you want to assign a different port to IBM HTTP server or configure WebSphere Application Server to use a different Web server, you need to reconfigure IBM HTTP server and WebSphere Application Server.

Explanation:  See message text.
Action:  See message text.

CODIN0079E  An existing version of the product is already installed. Migrating the product from the existing version to the version you are trying to install is not supported. The existing version must be uninstalled.
If you want to migrate from IBM Tivoli License Manager to IBM Tivoli License Manager for IBM Software, contact IBM Software Support.

Explanation:  See message text.
Action:  See message text.

CODIN0080E  The installation failed because the Tivoli Common Directory could not be created. This could be caused by a disk space or access permissions problem. Check space and access permissions to the location where the Tivoli Common Directory should be created. See Tivoli License Manager Planning, Installation, and Configuration. Restart the wizard when you have resolved the problem. If the problem persists, contact IBM Software Support.

Explanation:  See message text.
Action:  See message text.

CODIN0081E  On a Windows computer, the install wizard cannot find the required library IBMMTCD10.dll. The installation cannot proceed. Click "Cancel" to exit. The product is installed, but cannot create any log files. Look for the indicated file.

CODIN0082W  A supported version of the IBM DB2 UDB client was not found in the {0} directory. Click "Back" to select a different directory and search again. If you are sure that no version of DB2 is installed on this computer, click "Next" to install the client component of DB2 UDB Enterprise Server Edition, Version 8.1.

Explanation:  See message text.
Action:  See message text.

CODIN0083W  A supported version of the IBM DB2 UDB server was not found in the {0} directory. Click "Back" to select a different directory and search again. If you are sure that no version of DB2 is installed on this computer, click "Next" to install the server component of DB2 UDB Enterprise Server Edition, Version 8.1.

Explanation:  See message text.
Action:  See message text.

CODIN0084W  A supported version of the IBM WebSphere Application Server was not found in the {0} directory. Click "Back" to select a different directory and search again. If you are sure that no version of WebSphere Application Server is installed on this computer, click "Next" to install WebSphere Application Server, Version 5.1.

Explanation:  See message text.
Action:  See message text.

CODIN0085E  The install wizard cannot find one or more of the following prerequisite PTFs on the target node; for product 5722SS1: PTFs SI10904, SI07110, or SI10060. Click "Cancel" to exit from the installation, apply the PTFs, and retry the operation.
CODIN0099E  The Tivoli License Manager agent is already installed on the target computer. You must uninstall the old agent before installing a new one. If you want the new agent to have different configuration settings than the old agent, also remove the tlmagent.ini file from /QIBM/UserData/QITLM/conf.

Explanation: See message text.
Action: See message text.

CODIN0100E  At least one of the supplied values is too long. The maximum length is 60 characters for the address, 40 characters for the other fields. Enter a valid value or values.

Explanation: See message text.
Action: See message text.

CODIN0101E  An existing version of the catalog manager is already installed. Migrating the catalog manager from the existing version to the version you are trying to install is not supported. You must uninstall the existing version before restarting the installation.

Explanation: See message text.
Action: See message text.

CODIN0102E  The supplied password for the "tlmsrv" user is not valid for this computer. Supply a valid password for this computer, confirm that password and retry the operation.

Explanation: See message text.
Action: See message text.

CODIN0103E  You have not defined any nodes on which to deploy an agent. Add at least one node by clicking on "Add" at the bottom of the screen before clicking "Next" again, or click "Cancel" to exit.

Explanation: See message text.
Action: See message text.

CODIN0104E  At least one node in the list of defined nodes you have created is missing some required data. Review the node entries and add the missing data before clicking "Next" again, or click "Cancel" to exit.

Explanation: See message text.
Action: See message text.

CODIN0105E  The install wizard cannot find the required J2SSH libraries. The installation cannot proceed. Click "Cancel" to exit. Obtain the indicated files (see the Planning, Installation, and Configuration manual for full details), copy them into the directory where the agent deployment wizard setup file resides, and relaunch the installation. If you cannot obtain the files, or placing them in the indicated directory does not resolve the problem, contact IBM Software Support.

Explanation: See message text.
Action: See message text.

CODIN0106E  The language code specified is either not valid or not supported. Specify another language and retry the agent deployment.

Explanation: See message text.
Action: See message text.

CODIN0107E  An internal error occurred while parsing the XML import file. If you can solve the problem from the information in the log file, retry the import operation. Otherwise contact IBM Software Support.

Explanation: See message text.
Action: See message text.

CODIN0108E  The selected file is not in the correct format. It does not match the agent deployment schema. Correct the file format to match the schema documented in the Planning, Installation, and Configuration manual and retry the import operation.

Explanation: See message text.
Action: See message text.
CODIN0109E The specified import file does not exist or is corrupt. Select a valid file and retry the import operation.

Explanation: See message text.
Action: See message text.

CODIN0110E You have entered a non-numeric value for a field that requires a numeric value. Re-enter the value.

Explanation: See message text.
Action: See message text.

CODIN0111E The wizard could not find the file ITLMTopology.xsd which is needed to parse the XML file. Copy the file from the server CD to the directory where you are running the agent deployment wizard and retry the import operation.

Explanation: See message text.
Action: See message text.

CODIN0112E The XML file you have chosen incorrectly includes a DTD specification in the header. Remove the DTD specification and retry the import operation.

Explanation: See message text.
Action: See message text.

CODIN0113E One of the agent parameters you have entered is not valid. Check the entries. Re-enter the value correctly and click "Next" or click "Cancel" to exit.

Explanation: See message text.
Action: See message text.

CODIN0114E The entered path and name does not identify a valid certificate file (cert.arm). Check the entries. Re-enter the path and name or browse to select the required file and click "Next" or click "Cancel" to exit.

Explanation: See message text.
Action: See message text.

CODIN0115E The certificate file (cert.arm) has not been found in the directory specified. Check the entries. Re-enter the path and name or browse to select the required file and click "Next" or click "Cancel" to exit.

Explanation: See message text.
Action: See message text.

CODIN0116E The wizard has failed to upgrade the administration server database. Contact IBM Software Support.

Explanation: See message text.
Action: See message text.

CODIN0117E All the Tivoli License Manager components are already installed. To reinstall or refresh a component you have to previously uninstall it. Click "Cancel" to exit.

Explanation: See message text.
Action: See message text.

CODIN0118E An "All components" installation cannot be performed if a Tivoli License Manager component is already installed. Choose a "Custom" installation to install new components, or uninstall the component already installed before retrying an "All components" installation.

Explanation: See message text.
Action: See message text.

CODIN0119E The components you have selected require the server version of DB2. This computer has one or more client versions of DB2 installed. Click "Cancel" to exit, upgrade a DB2 client, or make a fresh install of a supported server version, following the instructions in the DB2 documentation. Retry the installation. Alternatively, click "Back" to change the components that you have chosen to install.

Explanation: See message text.
Action: See message text.
CODIN0120W  The Tivoli License Manager agent has been successfully deployed on your computer, but you must restart the computer before it takes effect.

Explanation:  See message text.

Action:  See message text.

CODIN0121E  An error occurred while attempting to stop the runtime server before dropping the runtime server database. Click "Finish" to exit. If no other error message is displayed you need take no further action as the uninstall operation has concluded successfully even though it verified this error. If another error message is displayed, follow the action indicated in that message.

Explanation:  See message text.

Action:  See message text.

CODIN0122E  An error occurred while attempting to drop the runtime server's database. However, if no other error messages are displayed the uninstall operation has completed successfully. Click "Finish" to exit and follow the instructions in Planning, Installation, and Configuration to drop the runtime server's database manually.

Explanation:  See message text.

Action:  See message text.

CODIN0123E  An error occurred while attempting to uninstall the agent. However, if no other error messages are displayed the uninstall operation has completed successfully. Click "Finish" to exit and follow the instructions in Planning, Installation, and Configuration to uninstall the agent manually.

Explanation:  See message text.

Action:  See message text.

CODIN0124E  An error occurred while attempting to uncatalog the runtime server’s database. However, if no other error messages are displayed the uninstall operation has completed successfully. Click "Finish" to exit, and follow the instructions in Planning, Installation, and Configuration to uncatalog the runtime server’s database manually.

Explanation:  See message text.

Action:  See message text.

CODIN0125E  An error occurred while attempting to stop the administration server before dropping the administration server's database. Click "Finish" to exit. If no other error message is displayed you need take no further action as the uninstall operation has concluded successfully even though it verified this error. If another error message is displayed, follow the action indicated in that message.

Explanation:  See message text.

Action:  See message text.

CODIN0126E  An error occurred while attempting to drop (delete) the administration server's database. However, if no other error messages are displayed the uninstall operation has completed successfully. Click "Finish" to exit and follow the instructions in Planning, Installation, and Configuration to drop the administration server's database manually.

Explanation:  See message text.

Action:  See message text.

CODIN0127E  An error occurred while attempting to uncatalog the administration server database. However, if no other error messages are displayed the uninstall operation has completed successfully. Click "Finish" to exit and follow the instructions in Planning, Installation, and Configuration to uncatalog the administration server's database manually.

Explanation:  See message text.

Action:  See message text.

CODIN0128E  The install wizard cannot find the following prerequisite PTF on the target node; for product 5722SS1: PTF SI12116. Click "Cancel" to exit, apply the PTF, and retry the operation.

Explanation:  See message text.

Action:  See message text.
CODIN0129E  The install wizard cannot find the following prerequisite products on the target node: 5722SS1 options 13 and 30. Click "Cancel" to exit, install the products, and retry the operation.

Explanation:  See message text.
Action:  See message text.

CODIN0130E  The wizard could not update the product.xml file.

Explanation:  See message text.
Action:  See message text.

CODIN0131E  The install wizard cannot find one or more of the following prerequisite PTFs required for the Startup mode SSL, on the target node: for product 5722SS1: SI10035, or SI10759; for product 5722999: PTF MF31411.
Click "Cancel" to exit, apply the PTFs, and retry the operation.

Explanation:  See message text.
Action:  See message text.

CODIN0132E  This fix pack has already been applied to all installed components.
Click "Cancel" to exit.

Explanation:  See message text.
Action:  See message text.

CODIN0133E  This fix cannot be installed because you do not have the appropriate version of Tivoli License Manager installed on this computer.

CODIN0134E  The wizard could not update the product.xml file.

Explanation:  See message text.
Action:  See message text.

CODIN0135E  The access credentials supplied for the WebSphere Application Server secure cell are not correct.
Re-enter the credentials and retry the operation, or click "Cancel" to exit from the wizard.

Explanation:  See message text.
Action:  See message text.

CODIN0136E  Errors occurred during the backup of the administration server configuration.

Explanation:  See message text.
Action:  See message text.

CODIN0137E  Errors occurred during the backup of the runtime server configuration.

Explanation:  See message text.
Action:  See message text.

CODCS2201E  An internal error occurred in the runtime server plug-in.

Explanation:  A critical error occurred when the runtime server was trying to plug in to the administration server.
Action:  Contact IBM Software Support.

CODCS6000E  The plug-in of runtime server server_name failed because the organization name organization_name is unknown.

Explanation:  The organization name stored in the runtime server configuration file does not match any organization name registered in the administration server database. A runtime server cannot plug in to the administration server if there is not an entry in the administration server database that exactly matches the
configuration information set for the runtime server at installation.

**Action:**
Verify that the organization name specified in the runtime server configuration file, communication.properties, is exactly the same as an organization name created on the administration server. If the organization has not yet been created, create it and then create an entry for the runtime server. If the organization has been created but does not have exactly the same name as the name recorded in the runtime server configuration file, you must change the value in the configuration file.

---

**CODCS6001E** The runtime server plug-in failed because the server name `server_name` is unknown.

**Explanation:** The server name stored in the runtime server configuration file does not match any server name registered in the administration server database. A runtime server cannot plug in to the administration server if there is not an entry in the administration server database that exactly matches the configuration information set for the runtime server at installation.

**Action:**
Verify that the server name specified in the runtime server configuration file, communication.properties, is exactly the same as the name specified for a runtime server on the administration server. If the server information has not yet been created on the administration server, create it. If the server has been created but does not have exactly the same name as the name recorded in the runtime server configuration file, you must align the values by changing one to match the other.

---

**CODCS6002E** The runtime server plug-in failed because server `server_name` does not belong to organization `organization_name`.

**Explanation:** A runtime server cannot plug in to the administration server if there is not an entry in the administration server database that exactly matches the configuration information set for the runtime server at installation.

The possible causes for the mismatch are:
- The configuration file contains wrong values.
- The runtime server details on the administration server have been mistakenly registered for the wrong organization.
- The runtime server has not yet been registered on the administration server, and the existing details are for a server with the same name that belongs to a different organization.

**Action:**
Check the details in the configuration file and on the administration server Web UI and correct the mismatch as follows:

---

**CODCS6003E** The plug-in of runtime server `server_name` failed because of a wrong password.

**Explanation:** The password received by the runtime server does not match the one stored in the administration server database.

**Action:**
Realignment the passwords. The password stored on the runtime server can be changed using the `rtpassword` command from the server command line. The password stored in the administration server database can be changed using the Change Password option in the Servers task.

---

**CODCS6004E** The plug-in of runtime server `server_name` failed due to wrong server ID `server_id`.

**Explanation:** The server ID passed by the runtime server to the administration server does not match the server ID that the administration server has stored in its database. This can happen if the runtime server is manually transferred to a different organization without the database being dropped and recreated or if the runtime server registration is deleted and then recreated on the administration server Web interface.

**Action:**
Drop and recreate the runtime server database.

---

**CODCS6005E** The plug-in of runtime server `server_name` failed because its version is not compatible.

**Explanation:** The runtime server cannot communicate with the administration server, either because its current version (version) is no longer supported or because it has been regressed to an earlier version after registering with the administration server.

**Action:**
Upgrade the runtime server to a version that is compatible with the current version of the administration server and restart the runtime server.
CODCS6006E  The organization name for the server cannot be changed.

Explanation: This server has already successfully plugged in to the administration server using the organization name *organization_name*. Changing the organization name would result in data inconsistencies.

Action: If you want to transfer this server to a different organization, you must unplug the runtime server and its database and then reinstall them specifying the new organization name.

CODDB2001E  A database error has occurred.

Explanation: The DB2 core message is: message_id (SQL errorcode=SQL_errorcode).

Action: Log on again and retry the operation. If the problem persists, contact IBM Software Support.

CODDB2002E  An error has occurred with a database object.

Explanation: A required database object could not be found.

Action: Contact IBM Software Support.

CODDB2003E  The object has not been added to the database because it is not unique.

Explanation: At least one of the main properties of the object contains a value that is already present in the database.

Action: Change the main properties of the object, for example, the name, to avoid duplicate entries.

CODDB2004E  An optimistic locking error has occurred.

Explanation: An error has occurred because the object you are trying to modify has been modified by another user since you selected it.

Action: Reload the object, check the modifications made by the other process, and apply your changes if needed.

CODDB2005E  An error has occurred during a database transaction operation.

Explanation: An error occurred while executing a commit, rollback, or other transaction operation.

Action: Retry the operation. If the problem persists, contact IBM Software Support.

CODDB2006E  The report parameters you have defined result in a database query that is too complex to be handled.

Explanation: The database query is too complex. This could be because you have selected a large number of individual products, agents, or users, or because you have defined a threshold that returns too many results.

Action: Redefine the report parameters and try again.

CODDB2007E  This server cannot be selected.

Explanation: Either you have selected the option to maintain a server that is the backup of a server currently in outage or you have selected a server that is already a backup.

Action: If you want to put this server in outage, you must wait until it is no longer the backup of a server in outage. If you are selecting a server as backup, make another selection from the list of servers.

CODDB2101E  This operation cannot be performed for a non-persistent object.

Explanation: The object must be saved before this operation can be performed.

Action: Contact IBM Software Support.

CODDB2102E  An operation has been attempted that is not allowed by the Tivoli License Manager logic.

Explanation: You are trying to perform an invalid operation or a logical error has occurred.

Action: Contact IBM Software Support.

CODDB2110E  The quantity you have defined is not available.

Explanation: The total distributed license quantity exceeds the procured quantity.

Action: Reduce the distributed license quantity or increase the procured quantity.

CODDB2111E  The product selection you have made is not valid.

Explanation: It is not possible to assign the selected license to products from a mixture of IBM and non-IBM vendors.

Action: Redefine the product selection making sure that IBM and non-IBM products are assigned to the same license.
CODDB2112E  The license cannot be linked to more than maximum_links objects.
Explanation: The maximum number of products, targets, or users that can be assigned to a license is maximum_links. The selection you have made exceeds this maximum.
Action:  Redefine the selection.

CODIF0666E An internal error has occurred.
Explanation: A critical error occurred with the following message: message_id.
Action:  Contact IBM Software Support.

CODIF1099E The profile for user user_name cannot be found.
Explanation: The profile file filename for user user_name logged on to server_name cannot be found.
Action:  Ask the Tivoli License Manager system administrator to check your user profile.

CODIF1100E You have used an incorrect user ID or password.
Explanation: The logon has failed for user user_name.
Action:  Try to log on again.

CODIF1101E Your user session has timed out or there is a problem with your user profile.
Explanation: The user session has timed out after a period of inactivity or there is a problem with the user profile.
Action:  Try to log on again. If the problem persists, contact the Tivoli License Manager system administrator.

CODIF1102E An internal error occurred when trying to create a session for user user_name.
Explanation: Access Manager could not create a user session for user user_name.
Action:  Contact IBM Software Support.

CODIF1103E The specified user ID already exists.
Explanation: The user ID you specified already exists in the XML password file.
Action: Specify a different user ID.

CODIF1104E The password you defined has not been accepted.
Explanation: The password you defined is too short. A password must have at least minimum_length characters.
Action: Retry the operation, specifying a password that is at least the minimum length.

CODIF1105E An internal error occurred when performing the requested action for user user_name.
Explanation: The user session is in an illegal state for the requested action. Message: message_id.
Action:  Contact IBM Software Support.

CODIF1106E The XML file of user accounts cannot be either read or updated.
Explanation: The XML file filename may be corrupted.
Action:  Check the integrity of the file and contact IBM Software Support.

CODIF1107E The object has not been added to the XML file because it is not unique.
Explanation: At least one of the main properties of the object contains a value that is already present in the XML file.
Action: Change the object main properties, for example, the name, to avoid duplicate entries.

CODIF1108E The user ID and password could not be authenticated.
Explanation: It was not possible to access the information required to authenticate the user ID and password pair. The reason for this depends on the method of authentication in use: database, LDAP, or XML.
Action: Ensure that the password authentication information can be accessed. See the Diagnosis chapter of Problem Determination for more details.

CODIF1500E An internal file error has occurred. The file filename was not found.
Explanation: The required file filename cannot be found.
Action: Check the log file for more information.
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<td>CODIF1508E</td>
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<td>CODIF1509E</td>
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<td>CODIF1511E</td>
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<td>An error occurred while trying to load the bundle for the locale_name locale. This locale is not supported.</td>
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<tr>
<td>CODIF1514E</td>
<td>An internal error has occurred.</td>
<td>The core component has not been correctly initialized.</td>
<td>Use the viewer command to check the message log file for more information. If the resolution of the problem is not obvious, contact IBM Software Support.</td>
</tr>
<tr>
<td>CODIF1515E</td>
<td>Messages cannot be logged.</td>
<td>The message component has not been initialized. This could be caused by a problem with access rights to the message log directory or to the configuration file, log.properties. The message directory could be missing or the log.properties file could be missing or corrupted.</td>
<td>Check the access rights of the user who started the server to both the message directory and the log.properties file. If the trace directory or the log.properties file is missing, or the log.properties file is corrupted, reinstall the server.</td>
</tr>
<tr>
<td>CODIF1516E</td>
<td>An internal error has occurred.</td>
<td>The server was unable to initialize a component.</td>
<td>Use the pdtool and viewer commands to check the message log file for more information. If the resolution of the problem is not obvious, contact IBM Software Support.</td>
</tr>
<tr>
<td>CODIF1517E</td>
<td>This runtime server is not currently available for agent deployment.</td>
<td>A problem occurred when this server started and the agent deployment service is not currently available.</td>
<td>Inform your manager of the problem. An administrator with access to the server should run the pdtool and viewer commands to check the message log file for more information and contact IBM Software Support if necessary. You may be able to deploy the</td>
</tr>
</tbody>
</table>
agent from another runtime server.

**CODIF2805E** The attempt to obtain a database connection failed.

**Explanation:** The database connection pooler did not initialize correctly.

**Action:** Contact IBM Software Support.

**CODIF2809E** An error occurred while creating the connection.

**Explanation:** An SQL exception has been generated while creating the connection: SQL error code: [0], SQL state: [1], SQL message: [2]

**Action:** Check the trace files in the log directory for more details. When the problem that caused the error has been resolved, retry the operation.

**CODIF4000E** An error occurred while initializing the logger.

**Explanation:** An error occurred while initializing class *class_name*.

**Action:** Contact IBM Software Support.

**CODIF4001E** An event logger error occurred.

**Explanation:** An error occurred while processing an event or while performing another logger task.

**Action:** Contact IBM Software Support.

**CODIF5070E** An e-mail notification could not be sent.

**Explanation:** There is a network problem.

**Action:** Contact your network administrator.

**CODIF6003E** An internal error occurred when trying to get a resource from bundle file *filename*.

**Explanation:** Bundle file *filename* was not found, was not accessible, or does not contain a required key.

**Action:** Check your permissions to access the bundle file, and change them if necessary. If the file is missing, you must reinstall the server component. If the problem persists, contact IBM Software Support.

**CODIF6004E** The trace component has not been correctly initialized.

**Explanation:** This problem occurs if the user who started the server does not have sufficient rights to write to the directory COD\logs\admin\trace or COD\logs\runtime\trace within the Tivoli Common Directory or if the directory does not exist.

**Action:** Do the following:
- Check the access rights of the user who started the server to the trace directory.
- If the trace directory is missing, reinstall the server.

**CODIF6005E** The JDBC driver was not found.

**Explanation:** The JDBC driver was not found probably because of an invalid configuration.

**Action:**
- Open the WebSphere Application Server administration console and check the data source classpath of the JCBC driver. It is normally DB2_INSTALL_DIR\sqllib\java\db2java.zip. If the JDBC driver is not installed, or is in a different location, see the database documentation for information on how to install the JDBC driver, and retry the operation.

**CODIF6006E** A database connection error occurred.

**Explanation:** The connection pooler failed to get a database connection.

**Action:** Retry the operation. If the problem persists open the WebSphere Application Server administration console and increase the connection pooler size.

**CODIF6007E** The connection to the database has been lost.

**Explanation:** Network problems have caused the connection to the database server to be lost.

**Action:** Check the network connection to the database server and try again.

**CODIF6008E** The Tivoli License Manager database version does not match the code version.

**Explanation:** The server and database migration procedure was not completed correctly.

**Action:**
- Check the dbsetup.log file to verify the migration procedure. Repair the database environment according to the information in the log file, then drop the migrated database, restore the backup, and migrate again.

**CODIF6009E** The database type is not valid.

**Explanation:** DB2 is the only supported database type.

**Action:**
- Supply a supported database and retry the operation.
CODIF6010E  The JDBC driver version is not valid.
Explanation:  The JDBC driver with which the connection has been established must be version 2.0 or later.
Action:  See the database documentation for information on how to change your default JDBC driver, and retry the operation.

CODIF6011E  A database pooler configuration problem has occurred.
Explanation:  One or more of the database pooler configuration parameters is missing or incorrect.
Action:  Check that the database is not down. If the database is not down and the problem persists, contact IBM Software Support.

CODIF6012E  The mail server setting is not valid or is null.
Explanation:  The setting for the smtpServer property in the system.properties file is not defined.
Action:  Check the setting for smtpServer in the Mail Settings section of the system.properties file.

CODIF6013E  The connection to the database could not be initialized.
Explanation:  It was not possible to connect to the database. Other errors conditions might have been logged providing details of the reason for failure.
Action:  Check the message log file for more information. If the resolution of the problem is not obvious, contact IBM Software Support.

CODIF7951E  An internal error occurred because the operation context is not defined.
Explanation:  The operation context for user user_name is null.
Action:  Contact IBM Software Support.

CODIF7953E  You are not authorized to run this task.
Explanation:  User user_name is not authorized to perform the selected operation. This task must be performed by a user with a suitable profile.
Action:  Allocate the task to a user with a suitable profile.

CODIF7954E  User user_name is not authorized to use the application.
Explanation:  No user account or profile has been defined for this User ID.
Action:  The super-administrator (tlmroot) must ensure that an account and profile are created for this User ID.

CODIN0901E  Registration of the Tivoli License Manager agent failed.
Explanation:  An error occurred while downloading file: filename.
Action:  Ensure that the destination directory for the agent deployment has sufficient space and that you have the correct privileges to write to the directory.

CODIN0902E  Registration of Tivoli License Manager agent failed.
Explanation:  An error occurred registering the Tivoli License Manager agent.
The return code is return_code.
Action:  The required action depends on the return code. Consult the table of install agent return codes in the Problem Determination guide.

CODIN0903E  You are not allowed to register the Tivoli License Manager agent.
Explanation:  You are not logged on with administrative or root rights.
The return code is return_code.
Action:  Log on as administrator or root and retry the agent registration.

CODIN0904E  Registration of the Tivoli License Manager agent failed.
Explanation:  An error occurred when verifying file: filename.
It might be corrupted or have been incompletely transmitted.
Action:  Retry the deployment. If the problem persists, try deploying from a different runtime server, because the copy of the agent file held on the original runtime server might be corrupted.

CODIN0905E  Registration of the Tivoli License Manager agent failed.
Explanation:  An internal error occurred. This may be caused by problems with the Java virtual machine.
Action:  Ensure that you are using a supported browser and then retry the deployment.
CODIN0906E • CODWI7909E

CODIN0906E Registration of the Tivoli License Manager agent failed.
Explanation: Your operating system is not yet supported.
Action: Check the list of supported platforms.

CODIN0907E Registration of the Tivoli License Manager agent failed.
Explanation: You may have not accepted the Applet certificate. If you did accept the certificate, the applet file may be corrupt.
Action: If you did not accept the certificate, try again and accept the certificate. If you did accept the certificate, you must reinstall the runtime server component.

CODIN0908E Registration of the Tivoli License Manager agent failed.
Explanation: Some problems occurred during agent installation.
Action: Contact the Tivoli License Manager system administrator.

CODWI7004E An internal error occurred while creating or rendering an image.
Action: Contact IBM Software Support.

CODWI7005E An internal error occurred while creating a chart.
Explanation: An error occurred while creating chart chart_name. Message: message_id.
Action: Contact IBM Software Support.

CODWI7800E The Web User Interface is not available on this server.
Explanation: The Web User Interface you are attempting to connect to is disabled and cannot be used.
Action: No action is required.

CODWI7809E An internal class error has occurred.
Explanation: An exception occurred while instantiating class class_name.
Action: Contact IBM Software Support.

CODWI7891E An internal method error has occurred.
Explanation: It was not possible to get or invoke method method_name on class class_name.
Action: Contact IBM Software Support.

CODWI7900E An internal model object error has occurred.
Explanation: Incorrect instance of model object: model_object_name in place of model_object_name.
Action: Contact IBM Software Support.

CODWI7902E A field is missing or out of range.
Explanation: Parameter parameter_name is out of range, missing, required but null, or of an unexpected type.
Action: Correct the values you entered and retry the operation.

CODWI7903E The specified date and time is in the future for the selected time zone.
Explanation: The date and time must not be later than the current date and time in the selected time zone.
Action: Correct the values you entered and retry the operation.

CODWI7905E You have entered at least one invalid date.
Explanation: At least one specified date is not a valid date or is in an invalid format.
Action: Correct the values you entered and retry the operation.

CODWI7906E You have tried to update data that could be out of date.
Explanation: You might have more than one window open for the same operation.
Action: Close all windows relating to the operation, open a new window, and retry the operation.

CODWI7909E An internal model manager error has occurred.
Explanation: A target model with ID target_model_id is missing in the GUI model manager.
Action: Contact IBM Software Support.
CODWI7911E An internal error occurred because of an unsupported output format.

Explanation: output_format is not a supported output format.

Action: Contact IBM Software Support.

CODWI7912E An internal error occurred because a class field was not set.

Explanation: Field field_name was not set by the servlet.

Action: Contact IBM Software Support.

CODWI7913E An internal error occurred because of a missing argument.

Explanation: The argument argument_name is missing from the report.

Action: Contact IBM Software Support.

CODWI7914E An internal error occurred because of a missing attribute in the user session.

Explanation: The required attribute attribute_name is missing from the user session.

Action: Contact IBM Software Support.

CODWI7915E An internal error occurred because of a missing model object.

Explanation: The model object model_object_name is missing from the user session.

Action: Contact IBM Software Support.

CODWI7916E The task you selected is not yet available.

Explanation: The flow controller could not find the requested reply.

Action: Contact IBM Software Support.

CODWI7917E The requested data is out of date.

Explanation: You might have more than one window open for the same operation.

Action: Close all windows relating to the operation, open a new window and retry the operation.

CODWI7918E No item_name is available.

Explanation: At least one item_name must be available for selection before you can proceed with the operation.

Action: Create at least one item_name.

CODWI7919E An internal error occurred because there is no stored action in the user session.

Explanation: There is no action in the user session to be retrieved and performed again.

Action: Log off and log on again.

CODWI7920E An internal error occurred because the HTTP request header has an invalid format.

Explanation: Unexpected request_header header format in HttpServletRequest.

Action: Contact IBM Software Support.

CODWI7930E An internal error occurred because it was not possible to create the DOM document.

Explanation: An exception occurred while initializing the DOM document or its factory.

Action: Contact IBM Software Support.

CODWI7931E An internal error caused the DOM document build to fail.

Explanation: It was not possible to append an element in the XML document of class class_name.

Action: Contact IBM Software Support.

CODWI7932E An internal error occurred while parsing the XML file.

Explanation: The parser failed to parse the file filename.

Action: Contact IBM Software Support.

CODWI7940E An internal error caused the initialization of the XSL transformer to fail.

Explanation: The initialization of the XSL transformer failed. The XSL file filename contains one or more serious errors.

Action: Contact IBM Software Support.

CODWI7941E An internal error occurred because it was not possible to transform XML to HTML.

Explanation: The XSL file filename does not match the DOM document or contains one or more errors.

Action: Contact IBM Software Support.
CODWI7942E  HTML serializer initialization failed.
Explanation:  An internal error occurred because the HTML serializer did not initialize.
Action:  Contact IBM Software Support.

CODWI7943E  An internal error occurred because an HTML document could not be serialized.
Explanation:  It was not possible to serialize an HTML document using a view based on XSL file filename.
Action:  Contact IBM Software Support.

CODWI7944E  An internal error occurred. It is not possible to display the requested form.
Explanation:  The stylesheets.properties configuration file does not contain the XSL file key key_name that was requested by the View component.
Action:  Check the integrity of the stylesheets.properties file and contact IBM Software Support.

CODWI7945E  An internal error occurred because a view object could not be instantiated.
Explanation:  Unable to instantiate view class class_name. Exception exception_code.
Action:  Contact IBM Software Support.

CODWI7950E  An internal error occurred because the user entitlement could not be determined.
Explanation:  The argument argument_name needed by entitlement support for user user_name is null.
Action:  Contact IBM Software Support.

CODWI7952E  An internal error occurred because the operation was not found.
Explanation:  The operation operation_name cannot be found.
Action:  Check the operation hierarchy.

CODWI7955E  User user_name is not authorized to operate in context context.
Explanation:  User user_name is not entitled to operate in context context, type type, value value.
Action:  No action is required.

CODWI7960E  One or more of the selected products cannot be assigned to this license.
Explanation:  This license is incompatible with licenses already assigned to one or more of the selected products. A product cannot be assigned a mixture of install and use licenses.
Action:  Check that you have selected the correct products and if so, check that the license types for this license and other licenses assigned to the selected products are correct.

CODWI7961E  The report does not include the requested page.
Explanation:  The report does not include page page_number.
Action:  Retry the operation, specifying a valid page number.

CODWI7962E  The requested report cannot be generated.
Explanation:  The server registration code held on the database is corrupt and cannot be used to identify the organization to which the report belongs.
Action:  Contact IBM Software Support.

CODWI7963E  Too many individual items have been selected.
Explanation:  The maximum number of individual items that can be selected is maximum. You have selected number_selected.
Action:  Redefine the selections, reducing the number of items that are selected to below the maximum. Alternatively, you can select the default of not applying any filter.

CODWI7964E  Cannot display the usage trend chart.
Explanation:  X-Server is not enabled on this server platform.
Action:  Ensure that the $DISPLAY variable in the environment where you are running Java identifies the path to the X display server, and that there are no security settings that prevent communication between the administration server and the X display server computers. The procedure for connecting to an X display server is described in the Planning, Installation, and Configuration guide.

CODWI8700E  The query you defined has not returned any result.
Explanation:  There are no matches for the combination of values you have specified.
**Action:** Redefine the request and try again.

**CODWI8702E** You have not selected any items from the table.

**Explanation:** You must select at least one item before proceeding.

**Action:** Select at least one item.

**CODWI8903E** The password has not been recorded.

**Explanation:** The value you specified for the old password is incorrect.

**Action:** Retry the operation.

**CODWI8904E** The password has not been recorded.

**Explanation:** The Confirm password value does not match the value specified for the password.

**Action:** Retry the operation.

**CODWI8905E** The password has not been recorded.

**Explanation:** The password you specified includes spaces. Spaces are not allowed.

### Administration and runtime server warnings

**CODDB3001W** The administrator was not found in the database.

**Explanation:** You are trying to perform an operation involving an administrator that is not present in the database.

**Action:** No action is required.

**CODDB3002W** The profile for organization org_name is already present in the database.

**Explanation:** You are trying to define a user profile that is already present in the database.

**Action:** No action is required.

**CODDB3003W** The organization was not found in the database.

**Explanation:** You are trying to perform an operation involving an organization that is not present in the database.

**Action:** No action is required.

**CODDB3004W** The user profile for organization org_name was not found in the database.

**Explanation:** You are trying to perform an operation involving an user profile that is not present in the database.

**Action:** No action is required.

**CODDB3005W** Not all the specified updates were successful.

**Explanation:** Some of the updates you defined could not be saved. The table below shows the updates that were not successful.

**Action:** Check the table to see which updates failed and why.

**CODDB3006W** number organizations were not found in the database.

**Explanation:** You are trying to perform an operation involving organizations that are not present in the database.

**Action:** No action is required.

**CODIF8000W** An internal error has occurred.

**Explanation:** The i/o component has not been correctly initialized. Functions such as data import, data export, and graphic creation may not be working properly. You can use the server for other purposes until the problem is resolved.

**Action:** Contact IBM Software Support.
CODIF8001W Cannot read the trace and message configuration settings.
Explanation: The trace and message configuration file, log.properties, is missing or not accessible. Default values have been used.
Action: Check your permissions to access the log.properties file and change them if necessary. If the file does not exist, reinstall the server component.

CODIF8002W The trace and message configuration settings are not valid.
Explanation: The setting setting_name is not present in the log.properties file or an incorrect value has been assigned to it. The default value has been used for this setting.
Action: Edit the log.properties file and correct error. See the Tivoli License Manager: Problem Determination for information about the settings and their values.

CODIF8003W Cannot write messages to the current message file.
Explanation: It is not possible to append messages to file message_file. The file might be corrupted. The message logger is now writing to new_message_file.
Action: No action is required.

CODIN0909W The Tivoli License Manager agent has been successfully deployed on your computer, but you must restart the computer before it takes effect.
Explanation: The computer needs to be restarted in order to load the libraries for the GSKit software that manages secure data communications.
Action: Restart your computer. The agent will start automatically.

CODWI8701W There are currently no agents deployed on the platforms you selected.
Explanation: No information has been collected for the platforms you selected because there are no agents deployed.
Action: Redefine the report, choosing different platforms, or ensure that agents are deployed on the selected platforms before retrying the report.

CODWI8703W There is no information to report for the selections you made.
Explanation: No data has been returned by the database query.
Action: Redefine the request and try again.

CODWI8704W The objects you selected do not have identical settings. Default settings are shown.
Explanation: You have selected objects for a multiple update that currently have different settings. If you continue with the update, all selected objects will be updated to have identical settings.
Action: If you want to check the current settings, you must select each object individually.

CODWI8705W There are currently no agents deployed.
Explanation: No agents have been deployed on any supported platforms. Before you can request a report, agents must be deployed, and time must have elapsed to allow the agents to collect data.
Action: Check with the Tivoli License Manager system administrator about the schedule for deploying agents, and retry the report when agents are deployed and data has been collected.

CODWI8706W There are currently no products running on any monitored nodes for these platforms.
Explanation: The runtime server has no current information about products running on the selected platform. It is possible that there are no agents deployed on the selected platforms.
Action: Redefine the report, choosing different platforms, or ensure that agents are deployed on the selected platforms before retrying the report. If this message still appears, no monitored products are currently in use.

CODWI8707W Performing this operation on the selected objects will take some time.
Explanation: The operation may take a long time because you have selected more than number objects.
Action: If you want to reduce the time required, reduce the objects selected to below number. Otherwise continue with the operation using the current selections.

CODWI8708W There were no nodes with changed capacity during the selected period.
Explanation: During the period you have defined, no nodes changed to or maintained a higher capacity.
Action: Check that you have defined the correct period. You can proceed with the report generation even if there have been no capacity changes.
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Explanation</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>CODWI8801W</td>
<td>Cannot display the selected contract.</td>
<td>The contract has been removed by another authorized user.</td>
<td>No action is required.</td>
</tr>
<tr>
<td>CODWI8802W</td>
<td>Cannot update the selected contract.</td>
<td>The contract has been removed by another authorized user.</td>
<td>No action is required.</td>
</tr>
<tr>
<td>CODWI8803W</td>
<td>Cannot update contract <em>contract_number</em>.</td>
<td>The contract is being updated by another authorized user.</td>
<td>Retry the operation.</td>
</tr>
<tr>
<td>CODWI8804W</td>
<td>Cannot delete the selected contract.</td>
<td>The contract has been removed by another authorized user.</td>
<td>No action is required.</td>
</tr>
<tr>
<td>CODWI8805W</td>
<td>Cannot delete contract <em>contract_number</em>.</td>
<td>The contract is being updated by another authorized user.</td>
<td>Ensure that this contract can be deleted before retrying the operation.</td>
</tr>
<tr>
<td>CODWI8806W</td>
<td>Cannot create contract <em>contract_number</em>.</td>
<td>A contract with the same number is being created by another authorized user.</td>
<td>Retry the operation, specifying a different contract number.</td>
</tr>
<tr>
<td>CODWI8807W</td>
<td>Cannot create contract <em>contract_number</em>.</td>
<td>The contract number is already in use.</td>
<td>Retry the operation, specifying a different contract number.</td>
</tr>
<tr>
<td>CODWI8808W</td>
<td>Cannot update contract <em>contract_number</em>.</td>
<td>The contract number is already in use.</td>
<td>Retry the operation.</td>
</tr>
<tr>
<td>CODWI8809W</td>
<td>Cannot delete <em>contract_number</em>.</td>
<td>A contract with the same number is already in use.</td>
<td>No action is required.</td>
</tr>
<tr>
<td>CODWI8900W</td>
<td>No organizations are currently registered.</td>
<td>The administration server database must include at least one organization. You must create at least one organization before you can create any components, resources, or licenses, or produce any reports.</td>
<td>Create an organization.</td>
</tr>
<tr>
<td>CODWI8901W</td>
<td>You are logged off from Tivoli License Manager.</td>
<td>You have selected the option to log off from Tivoli License Manager.</td>
<td>Enter your user ID and password to log on again.</td>
</tr>
<tr>
<td>CODWI8906W</td>
<td>No custom fields have been defined.</td>
<td>No custom fields have been defined. Users with the roles Administrator and Procurement manager can define custom fields.</td>
<td>Retry the operation when custom fields have been defined.</td>
</tr>
<tr>
<td>CODWI8910W</td>
<td>No license is available. You cannot proceed with selection unless at least one exists.</td>
<td>No licenses have been defined. Users with the role Administrator or Procurement manager can create licenses.</td>
<td>Retry the operation when at least one license has been created.</td>
</tr>
<tr>
<td>CODWI8911W</td>
<td>The details of the selected license cannot be displayed.</td>
<td>Another authorized user has deleted the selected license.</td>
<td>No action is required.</td>
</tr>
<tr>
<td>CODWI8912W</td>
<td>The changes you made to the license cannot be saved.</td>
<td>Another authorized user has deleted the selected license after you selected it.</td>
<td>No action is required.</td>
</tr>
<tr>
<td>CODWI8913W</td>
<td>The changes you made to the license cannot be saved.</td>
<td>Another authorized user is making changes to the license.</td>
<td>Reload the license and make the changes again if necessary.</td>
</tr>
</tbody>
</table>
**CODWI8914W**  The license has not been deleted.

**Explanation:** Another authorized user has already deleted the license.

**Action:** No action is required.

**CODWI8915W**  The license has not been deleted.

**Explanation:** Another authorized user is making changes to the selected license.

**Action:** Ensure that this license can be deleted before retrying the operation.

**CODWI8917W**  The license distribution quota has not been deleted.

**Explanation:** Another authorized user has deleted the selected distribution quota or has deleted the license to which the selected quota was linked.

**Action:** No action is required.

**CODWI8918W**  The license distribution quota has not been deleted.

**Explanation:** Another authorized user is making changes to the selected distribution quota.

**Action:** Ensure that this quota can be deleted before retrying the operation. Reload the license and attempt to delete the distribution quota again if necessary.

**CODWI8919W**  There are currently no distribution quotas defined for this license.

**Explanation:** You can continue with this task to define one or more distribution quotas for the license.

**Action:** Click Create to define a distribution quota.

**CODWI8921W**  The details of the selected license cannot be displayed.

**Explanation:** Another authorized user has deleted the selected license.

**Action:** No action is required.

**CODWI8922W**  The changes you made to the license cannot be saved.

**Explanation:** Another authorized user has deleted the selected license after you selected it.

**Action:** No action is required.

**CODWI8923W**  The changes you made to the license cannot be saved.

**Explanation:** Another authorized user is making changes to the selected license.

**Action:** Reload the license and make the changes again if necessary.

**CODWI8924W**  The details of the selected license distribution quota cannot be displayed.

**Explanation:** Another authorized user has deleted the selected distribution quota.

**Action:** No action is required.

**CODWI8925W**  The details of the selected license distribution quota cannot be displayed.

**Explanation:** The license to which this distribution quota is linked has been deleted by another authorized user.

**Action:** No action is required.

**CODWI8927W**  The license distribution quota you are changing or creating cannot be saved.

**Explanation:** Another authorized user has deleted the selected distribution quota or has deleted the license to which the selected quota was linked.

**Action:** No action is required.

**CODWI8928W**  The license distribution quota you are changing cannot be saved.

**Explanation:** Another authorized user is making changes to the selected distribution quota.

**Action:** Reload the distribution quota and make the changes again if necessary.

**CODWI8929W**  The quantity you have allocated to this distribution quota exceeds the available quantity.

**Explanation:** The quantity available for distribution is `available_quantity`.

**Action:** Specify a quantity that is not more than the available quantity.

**CODWI8930W**  The enforcement level definition for product `product_name` has not been saved.

**Explanation:** Another authorized user has defined the enforcement level and it is currently being saved.

**Action:** Reload the enforcement level settings, check the settings defined by the other user, and if necessary make changes.
<table>
<thead>
<tr>
<th>Message Reference</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CODWI8932W</td>
<td>The distribution quota is not allocated to any targets.</td>
</tr>
<tr>
<td><strong>Explanation</strong></td>
<td>This distribution quota cannot be used in its current state.</td>
</tr>
<tr>
<td><strong>Action</strong></td>
<td>Select the option to change the distribution quota and select the targets to which the quota is to be allocated. If the targets are not currently available, you can do this later.</td>
</tr>
</tbody>
</table>

| CODWI8933W       | The distribution quota is not allocated to any users. |
| **Explanation**  | You have created a distribution quota but have not allocated it to any users. This distribution quota cannot be used in its current state. |
| **Action**       | Select the option to change the distribution quota and select the users to which the quota is to be allocated. If the users are not currently available, you can do this later. |

| CODWI8934W       | The procured quantity cannot be reduced to less than $\text{distributed\_quantity}$. |
| **Explanation**  | Distribution quotas have already been defined for this license. The change you defined would reduce the license quantity to below the quantity already distributed. |
| **Action**       | Either change the procured quantity so that it is not lower than the distributed quantity or ensure that the distribution quotas are reduced before reducing the procured quantity. |

| CODWI8940W       | The inventory scan schedule you defined has not been saved. |
| **Explanation**  | The division for which the schedule was defined has been deleted by another authorized user. |
| **Action**       | No action is required. |

| CODWI8941W       | The inventory scan schedule you defined has not been saved. |
| **Explanation**  | The division for which the schedule was defined is currently being updated by another user and so cannot be updated with the schedule information. |
| **Action**       | Retry the operation. |

| CODWI8942W       | There are currently no divisions available for selection. |
| **Explanation**  | You cannot proceed with this task unless at least one division exists. |
| **Action**       | Ensure that at least one division has been created before retrying the operation. |

| CODWI8950W       | No resources of this type exist. |
| **Explanation**  | There are currently no resources of the type you are working with available for selection. Resources are divisions, nodes, and application users. |
| **Action**       | Create at least one division, node, or user. |

| CODWI8951W       | The details of the resource you selected cannot be displayed. |
| **Explanation**  | The division, node, or user you selected has been deleted by another authorized user. |
| **Action**       | No action is required. |

| CODWI8952W       | The changes you defined have not been saved. |
| **Explanation**  | The division, node, or user you are working with has been deleted by another authorized user. |
| **Action**       | No action is required. |

| CODWI8953W       | The changes you defined have not been saved. |
| **Explanation**  | The changes you defined would make the resource you are working with a duplicate of one that exists in the database. |
| **Action**       | Check that the values you have are correct. |

| CODWI8954W       | The changes you defined have not been saved. |
| **Explanation**  | The division, node, or user you have selected for deletion has already been deleted by another authorized user. |
| **Action**       | No action is required. |

| CODWI8955W       | The resource you selected cannot be deleted. |
| **Explanation**  | The division, node, or user you have selected for deletion is currently being updated by another authorized user. |
| **Action**       | Check that the selected division, node, or user should be deleted before retrying the operation. |
CODWI8957W The resource you defined has not been created.

Explanation: The division, node, or user you are defining could not be created because it would be the duplicate of an existing division, node, or user.

Action: No action is required.

CODWI8958W The selected node has not been deleted.

Explanation: The selected node cannot be deleted because it has linked agents.

Action: All agents that are currently linked to this node must be uninstalled and deleted before you delete the node.

CODWI8960W No component of this type exists.

Explanation: There are currently no components of the type you are working with available for selection. Components are servers and agents.

Action: If you are working with servers, use the server create option to add a server. Agents must be deployed to nodes before they can be selected.

CODWI8961W The details of the component you selected cannot be displayed.

Explanation: The server or agent you selected has been deleted by another authorized user.

Action: No action is required.

CODWI8962W The changes you defined have not been saved.

Explanation: The server you are trying to update has been deleted by another authorized user.

Action: No action is required.

CODWI8963W The changes you defined have not been saved.

Explanation: The server you selected is being updated by another authorized user.

Action: Retry the operation.

CODWI8964W The changes you defined have not been saved.

Explanation: You have specified a value for server name or address that duplicates a name or address already held in the database.

Action: Verify the server name and address and repeat the operation using the correct values.

CODWI8965W The selected component has not been deleted.

Explanation: The server or agent you selected has already been deleted by another authorized user.

Action: No action is required.

CODWI8966W The selected component has not been deleted.

Explanation: The server or agent you selected is currently being changed by another authorized user.

Action: Ensure that the server or agent can be deleted before retrying the operation.

CODWI8967W The server you defined has not been created.

Explanation: Server component_name already exists and/or address address is already in use.

Action: Verify the server name and address and repeat the operation using the correct values.

CODWI8968W The agent on host name host_name has not been deleted.

Explanation: The agent is currently active.

Action: Uninstall the agent from host name host_name before deleting this entry from the database.

CODWI8969W The server maintenance status is invalid.

Explanation: The backup server has been deleted before the status of the server to be maintained has changed from Planned to Ready. The server scheduled for maintenance cannot be maintained because there is no backup server assigned.

Action: Return the server maintenance status to Not Planned and select another backup server.

CODWI8970W There are currently no organizations set up.

Explanation: You cannot proceed with selection unless at least one organization exists.

Action: Create an organization.

CODWI8971W The details of organization organization_name cannot be displayed.

Explanation: Another authorized user has deleted the organization.

Action: No action is required.
CODWI8972W  The changes you defined for organization_name have not been saved.
Explanation: Another authorized user has deleted the organization.
Action: No action is required.

CODWI8973W  The changes you defined for organization_name have not been saved.
Explanation: Another authorized user is making changes to the organization.
Action: Reload the organization and try again.

CODWI8974W  The changes you defined for organization_name have not been saved.
Explanation: The organization name organization_name is already in use.
Action: Choose another name and retry the operation.

CODWI8975W  Organization organization_name has not been deleted.
Explanation: Another authorized user has already deleted the organization.
Action: No action is required.

CODWI8976W  Organization organization_name has not been deleted.
Explanation: Another authorized user is making changes to the organization.
Action: Ensure that organization_name can be deleted before retrying the operation.

CODWI8977W  The organization you defined has not been created.
Explanation: The name organization_name, which you assigned to the organization, is already assigned to an existing organization.
Action: Choose a different name and try again.

CODWI8978W  Organization organization_name has not been deleted.
Explanation: Organization organization_name is the organization that was selected on the home page for this session. It cannot be deleted.
Action: Click the Home icon to return to the home page, select a different organization, and then retry the operation.

CODWI8980W  No account is available.
Explanation: You cannot proceed with selection unless at least one exists.
Action: Create an account.

CODWI8981W  The details of the selected account cannot be displayed.
Explanation: Another authorized user has deleted the selected account.
Action: No action is required.

CODWI8982W  The changes you defined for the account have not been saved.
Explanation: Another authorized user has deleted the selected account.
Action: No action is required.

CODWI8983W  The changes you defined for the account have not been saved.
Explanation: Another authorized user is making changes to the selected account.
Action: Reload the account and try again.

CODWI8984W  The changes you defined for the account have not been saved.
Explanation: The user ID user_name is already in use.
Action: Choose another user ID and try again.

CODWI8985W  The selected account could not be deleted.
Explanation: Another authorized user has already deleted the selected account.
Action: No action is required.

CODWI8986W  The selected account has not been deleted.
Explanation: Another authorized user is making changes to the selected account.
Action: Ensure that the account can be deleted before retrying the operation.

CODWI8987W  The account you defined has not been created.
Explanation: The user ID user_name is already in use.
Action: Choose another user ID and try again.
CODWI8998W  The super administrator account has not been deleted.
Explanation: The super administrator account cannot be deleted.
Action: No action is required.

CODWI8990W  There are currently no accounts available for selection.
Explanation: You cannot makes changes to profiles until the accounts to which they relate exist.
Action: Create an account.

CODWI8991W  The selected profile cannot be displayed.
Explanation: Another authorized user has deleted the profile or the account to which it belongs.
Action: No action is required.

CODWI8992W  The changes you made to the selected profile have not been saved.
Explanation: Another authorized user has deleted the profile or the account to which it belongs.
Action: No action is required.

CODWI8993W  The changes you made to the selected profile have not been saved.
Explanation: Another authorized user is making changes to the profile or the account to which it belongs.
Action: Reload the account and try again.

CODWI8994W  The selected profile cannot be deleted.
Explanation: Another authorized user has already deleted the profile or the account to which it belongs.
Action: No action is required.

CODWI8995W  The selected profile has not been deleted.
Explanation: Another authorized user is making changes to the account to which the profile belongs.
Action: Reload the account and try again.

CODWI8996W  The super administrator profile has not been changed.
Explanation: Changes to the super administrator profile are not allowed.
Action: No action is required.

CODWI8997W  There are no registered users that can be selected for license distribution.
Explanation: There are no users available for selection. This is either because no users have been registered or because all existing users do not have a logon name defined. The distribution rules will default to allow access to all users.
Action: If you want to restrict the distribution of the license to selected users, ensure that users are defined with logon names and then use the option to change the license distribution details.

CODWI8998W  No targets of selected target type are currently available.
Explanation: No targets of the selected target type currently exist. Default settings have been applied to allow access to all targets of the selected target type that are subsequently created.
Action: If you want to restrict the distribution of the license to selected targets, you must use the option to change the license distribution details when the targets have been created.

CODWI8999W  Outage maintenance is not available for the selected server.
Explanation: Outage maintenance functionality was introduced in Tivoli License Manager 2.1. The server you selected is either an earlier version or its version cannot be determined because it has not plugged in to the administration server.
Action: You can select a different server. If this server must be maintained, it must first plug in to the administration server or be upgraded to version 2.1.

CODWI9000W  Agent deployment cannot be performed.
Explanation: No servers are available from the runtime server database, because communications between the runtime server and the administration server have not completed.
Action: Wait for communications between the runtime server and the administration server to finish, then retry the operation.

CODWI9001W  Agent deployment cannot be performed.
Explanation: No divisions are available from the runtime server database, because communications between the runtime server and the administration server have not completed.
Action: Wait for communications between the runtime server and the administration server to finish, then retry the operation.
CODWI9002W  There are no servers available.

Explanation: No servers are available to act as a backup for the server for which you are scheduling maintenance.

Action: Before using the option to put a server into a maintenance status, you must install and register at least one other runtime server for the same organization.

CODWI9100W  All existing organizations are currently administered by the selected user.

Explanation: You cannot add a new profile for the selected user account because this user account already has profiles defined for all existing organizations.

Action: You can check the settings for an existing profile by returning to the list of user accounts and clicking Change Profile.

CODWI9101W  No organizations are currently administered by the selected user.

Explanation: You cannot change or delete a profile because the selected user does not have a profile defined for any organization.

Action: You can use the Create Profile option to define a profile for an organization that is to be administered by this user.

Server command line messages

CODCL0001I  The database password has been successfully changed.
            Restart the server for the changes to take effect.

Explanation: No additional information is available for this message.

CODCL0002I  \(\text{VALUE}_0\) of \(\text{VALUE}_1\) log files have been successfully converted to XML format.
            The XML files have been saved in the directory \text{directory}\_name.

Explanation: No additional information is available for this message.

CODCL0003I  \(\text{VALUE}_0\) of the \(\text{VALUE}_1\) log files have been successfully converted to HTML format.
            The HTML file has been saved in the directory \text{directory}\_name.

Explanation: No additional information is available for this message.

CODCL0004I  The collection was successful.
            You can now send the created folder to IBM Software Support.

Explanation: No additional information is available for this message.

CODCL0005I  The SSL password has been successfully changed.
            Restart the server for the changes to take effect.

Explanation: No additional information is available for this message.

CODCL0006I  The Tivoli License Manager administration server has been successfully started.

Explanation: No additional information is available for this message.

CODCL0007I  The Tivoli License Manager administration server has been successfully stopped.

Explanation: No additional information is available for this message.

CODCL0008I  The message and trace settings have been successfully reloaded.

Explanation: No additional information is available for this message.

CODCL0009I  The catalog import has been successfully completed.

Explanation: No additional information is available for this message.

CODCL0010I  The conversion has been successfully completed. The output file is: \(\text{VALUE}_0\)

Explanation: No additional information is available for this message.

CODCL0011I  The runtime password has been successfully changed.
            Restart the server for the changes to take effect.

Explanation: No additional information is available for this message.
The Tivoli License Manager runtime server has been successfully started.

Explanation: No additional information is available for this message.

The Tivoli License Manager runtime server has been successfully stopped.

Explanation: No additional information is available for this message.

The backup of the configuration files has completed successfully.

Explanation: No additional information is available for this message.

The restore of the configuration files has completed successfully.

Explanation: No additional information is available for this message.

The command is not valid.

Explanation: The command you have entered is not part of the command line.

Action: Type help to list the available commands.

An error occurred when changing the database password.
At least one of the characters you have entered is not valid:
- Valid characters are: A-Z a-z 0-9 + -

Explanation: You have entered at least one character that is not valid.

Action: Redefine the password and retry the command.

The database password must not be longer than 20 characters.

Explanation: The password you have specified is too long.

Action: Redefine the password and retry the command.

At least one of the settings in the log.properties file is corrupted or not valid.

Explanation: At least one of the settings for the trace and messaging components contains a value that is not valid.

Action: Check the log.properties file and the information about trace and message configuration in the Problem Determination Guide, correct the errors and try again.

The ffdc directory could not be created.

Explanation: Tivoli License Manager cannot create the directory. It is possible that you do not have the correct permissions to create the directory or that there is insufficient disk space to create the directory.

Action: Check the directory access permissions and the disk space and try again.

An error occurred converting the {0} file. The file may be corrupt or not valid.

Explanation: The log2xml command skipped the file because it was corrupted or missing. It is possible that the file was renamed and so has not been recognized by the command.

Action: Check the files in the trace or message directory. If a file name has been changed you must change it back before it can be converted.

The trace files have not been copied to the ffdc directory.

Explanation: The command failed to collect the trace files. There might be a problem with your access permissions to the trace directory or to the ffdc directory, or there might be a disk space problem.

Action: Check the directory permissions and the available disk space and retry the command.

The configuration files have not been copied to the ffdc directory.

Explanation: The command failed to collect the configuration files. There might be a problem with your access permissions to the configuration directory or to the ffdc directory, or there might be a disk space problem.

Action: Check the directory permissions and the available disk space and retry the command.

The WebSphere Application Server log files have not been copied to the ffdc directory.

Explanation: The command failed to collect the WebSphere Application Server logs. There might be a problem with your access permissions to the directory where the logs are stored or to the ffdc directory, or there might be a disk space problem.

Action: Check the directory permissions and the available disk space and retry the command.
CODCL7010E  The database connection could not be established probably due to an incorrect logon.
Explanation: The command failed because it was not possible to connect to the database.
Action: Check the database user and password and retry the command.

CODCL7011E  At least one error occurred during the dump of the database key tables.
Explanation: The database dump failed.
Action: Contact IBM Software Support.

CODCL7012E  At least one error has occurred. Note any error messages output from the script and send them, and the created folder to IBM Software Support.
Explanation: At least one internal error occurred while the script was running.
Action: Contact IBM Software Support.

CODCL7013E  An error occurred when changing the SSL password. At least one of the characters you have entered is not valid:
- Valid characters are: A-Z a-z 0-9 + -
Explanation: You have entered at least one character that is not valid.
Action: Redefine the password and retry the command.

CODCL7014E  The SSL password exceeds the maximum length of 20 characters.
Explanation: The password you specified is too long.
Action: Redefine the password and retry the command.

CODCL7015E  An error has occurred while saving VALUE_0 with external ID entity_ID in the database.
Explanation: The specified entity contains one or more errors.
Action: Check the trace for more information about the error.

CODCL7017E  An error has occurred while creating the entitlement for Product VALUE_0 within organization VALUE_1.
Explanation: An error occurred while creating the entitlement.
Action: Contact IBM Software Support.

CODCL7018E  An error has occurred while loading the entitlement for Product VALUE_0 within organization VALUE_1.
Explanation: An error occurred while creating the entitlement.
Action: Contact IBM Software Support.

CODCL7019E  An error has occurred while accessing the database to extract the organization name.
Explanation: An error occurred while accessing the database.
Action: Ensure that you used the correct user name and password. If the problem persists, contact IBM Support.

CODCL7020E  An error occurred while initializing the database.
Explanation: An error has occurred while initializing the database.
Action: Ensure that you used the correct user name and password. If the problem persists, contact IBM Support.

CODCL7021E  An error has occurred while loading VALUE_0 with the external ID entity_ID from the database.
Explanation: The specified entity was not found in the database.
Action: Check the trace for more information about the error. If necessary, correct the command and try again.

CODCL7025E  The output format VALUE_0 is not supported.
Explanation: The output format you specified is not supported.
Action: Specify a valid output format and try again.
CODCL7026E  The organization name parameter has been supplied twice in the command.

Explanation: The command syntax is incorrect because the organization name parameter is repeated.
Action: Correct the syntax and try again.

CODCL7027E  The password has not been changed because the old password you specified is incorrect.

Explanation: The password can only be changed to a new value if the current password is supplied.
Action: Correct the old password and try again.

CODCL7028E  The values entered for new password and confirm passwords are not the same.

Explanation: The value you specified for the confirm password is different from the value you specified for the new password.
Action: Try again taking care to align the new and confirm passwords.

CODCL7029E  You have supplied an incorrect number of parameters.
Type "help <command>" to view the correct syntax of a command.

Explanation: The syntax of the command is incorrect because it has an incorrect number of parameters.
Action: Correct the syntax and try again.

CODCL7030E  You have entered an incorrect value for a parameter;
"VALUE_0" is not a supported value.

Explanation: The value you supplied for the parameter is not valid.
Action: Correct the value of the parameter and try again.

CODCL7031E  You have supplied an incorrect parameter.
Type "help <command>" to view the correct syntax of a command.

Explanation: The command syntax is incorrect because it includes a parameter that is not supported.
Action: Correct the syntax and try again.

CODCL7032E  You have included the -p argument but have not supplied a valid port number.

Explanation: The -p argument is optional, but if it is included you must also supply a port number.
Action: Redefine the command either omitting the -p argument or supplying a port number and try again.

CODCL7033E  The port number must be numeric.

Explanation: If the port number is specified it must be an integer value.
Action: Redefine the command specifying a numeric port number and try again.

CODCL7034E  The command syntax you specified is incorrect.
The correct syntax is: logreload [-p portNumber]

Explanation: The syntax of the command you submitted is incorrect.
Action: Correct the syntax and try again.

CODCL7035E  The server did not respond to the command request.
Check that the server is running and that it is using the correct port.

Explanation: The command failed because the server did not respond to the request.
Action: Check that the server is running and resubmit the command.

CODCL7036E  The requested service is not valid.

Explanation: The service you requested has not been recognized.
Action: Contact IBM Software Support.

CODCL7037E  An error occurred when changing the password.
At least one of the characters you have entered is not valid:
- Valid characters are: A-Z a-z 0-9 + -

Explanation: You have entered at least on character that is not valid.
Action: Redefine the password and retry the command.
CODCL7038E  The password exceeds the maximum length of 20 characters.
Explanation:  The password you specified is too long.
Action: Redefine the password and retry the command.

CODCL7039E  Cannot load the truststore key.jks.
Explanation:  An error occurred loading the keystore database.
Action: Contact IBM Support.

CODCL7040E  The value VALUE_0 assigned to the attribute VALUE_1 must be a number.
Explanation:  You have assigned a non-numeric value to a numeric attribute.
Action: Correct the syntax and try again.

CODCL7041E  An error occurred while processing the following entity file: VALUE_0.
Explanation:  The specified entity has been skipped.
Action: Check the trace for more information about the error. If necessary correct the file and retry the command.

CODCL7042E  An error occurred while writing the following entity file: VALUE_0.
Explanation:  The specified entity has been skipped.
Action: Check the trace for more information about the error.

CODCL7043E  An error occurred while processing the current entity.
Explanation:  The specified entity has been skipped.
Action: Check the trace for more information about the error. If necessary correct the file and retry the command.

CODCL7044E  An error occurred while loading the following organization name:organization_name.
Explanation:  The organization name is not valid.
Action: Specify a different organization.

CODCL7045E  Organization name is a required parameter. No value has been supplied.
Explanation:  The input file must include a value for the organization name.
Action: Correct the input file and retry the command.

CODCL7046E  An unknown entity ID has been found: entity_ID.
Explanation:  The entity ID is not valid.
Action: Correct the input file and retry the command.

CODCL7047E  The specified entity name is not valid: VALUE_0
Resubmit the command with a valid entity.
Explanation:  The entity name is not valid.
Action: Correct the input file and retry the command.

CODCL7048E  The value VALUE_0 is not valid for the attribute VALUE_1. This attribute requires a date.
Explanation:  The input file specifies a non-date value for a date attribute.
Action: Correct the input file and retry the command.

CODCL7049E  An incorrect number of parameters was supplied: VALUE_0.
Explanation:  The syntax of the command is incorrect because it includes the wrong number of parameters.
Action: Check the syntax of the command and try again.

CODCL7050E  The directory or file VALUE_0 cannot be accessed.
Explanation:  Either the path you specified is incorrect or you do not have the required permissions to access the file.
Action: Ensure that you have the correct path and the correct permissions and try again.

CODCL7051E  The command syntax is incorrect because parameter parameter is not valid.
Explanation:  The command you defined includes a parameter that is not supported.
Action: Check the syntax of the command and try again.

CODCL7052E  The command failed because the attribute attribute is not valid.
Explanation:  The input file definition includes an unsupported attribute.
Action: Correct the error and try again.
CODCL7053E • CODCL7065E

CODCL7053E  An internal error has occurred.
Explanation:  An internal error has occurred.
Action:  Contact IBM Software Support.

CODCL7054E  The CSV output format is not supported for the specified entity.
Explanation:  The Topology entity does not support the CSV output format.
Action:  Specify the XML output format and try again.

CODCL7055E  An error occurred while creating the file where the CSV data is to be saved.
Explanation:  The CSV file could not be created. It is possible that there is a problem with access permissions to the directory.
Action:  Ensure that you have the correct permissions to create the file in the specified path. If the problem persists, contact IBM Software Support.

CODCL7056E  An error has occurred while loading the ID of the following entity: VALUE_0.
Explanation:  The specified entity was not found.
Action:  Check the trace for details of the error, correct any problems, and resubmit the command.

CODCL7057E  An error has occurred while creating the file where the XML data is to be saved.
Explanation:  The XML file could not be created. It is possible that there is a problem with access permissions to the directory.
Action:  Ensure that you have the correct permissions to create the file in the specified path. If the problem persists, contact IBM Software Support.

CODCL7058E  The command you have specified is not a part of the Tivoli License Manager command line.
Explanation:  The specified command does not exist.
Action:  Type help to list all available commands.

CODCL7059E  The specified criteria do not match any input files.
Explanation:  You have not identified any existing input files.
Action:  Redefine the criteria and try again.

CODCL7060E  An error occurred loading input files. Check that the file exists and that you specified the correct path.
Explanation:  The file that you specified does not exist.
Action:  Ensure that you have the correct file name and path and try again.

CODCL7061E  An error occurred loading the catalog into the database.
Explanation:  The catalog file you specified is not valid.
Action:  Ensure that you have selected the correct catalog file and if necessary download a new catalog from the catalog Web site. If the problem persists, contact IBM Software Support.

CODCL7062E  An internal error has occurred while attempting to load the catalog file.
Explanation:  An internal error has occurred.
Action:  Contact IBM Software Support.

CODCL7063E  An error while connecting to the database. Check that user or password are correct.
Explanation:  It was not possible to access the database. See the trace file for more details about the problem.
Action:  Check that user or password are correct and try again.

CODCL7064E  Error accessing the database. The database is not a valid Tivoli License Manager administration server database.
Explanation:  The database you are connecting to is not the administration server database.
Action:  Ensure that you have the correct information and configuration for connecting to the administration server database. If the problem persists, contact IBM Software Support.

CODCL7065E  The catalog file you have specified is not valid.
Explanation:  An error occurred when validating the catalog file you specified.
Action:  Ensure that you have selected the correct catalog file and if necessary download a new catalog from the catalog Web site. If the problem persists, contact IBM Software Support.
CODCL7066E  An error occurred loading the system properties.
Explanation:  An error occurred loading the system properties.
Action:  Contact IBM Software Support.

CODCL7067E  The Tivoli License Manager administration server has not been successfully started.
Explanation:  The Tivoli License Manager administration server could not be started.
Action:  Contact IBM Software Support.

CODCL7068E  You have selected a locale that is not supported.
The following locales are supported: VALUE_0.
Explanation:  You have selected a locale that is not supported.
Action:  Redefine the command specifying a supported locale and try again.

CODCL7069E  The conversion has not been performed because the log file directory VALUE_0 did not contain log files.
Explanation:  The log directory is empty. It is possible that logging has failed because of access permission or space problems.
Action:  Ensure that the log directory is accessible and can be written to by the trace or messaging component.

CODCL7070E  The command failed because the log directory was not found.
The log directory VALUE_0 is missing.
Explanation:  The trace or message directory was not found. It is possible that files have been deleted or the trace or message component has not correctly initialized.
Action:  Contact IBM Software Support.

CODCL7071E  Input file VALUE_0 was not found.
Explanation:  The specified file cannot be found.
Action:  Ensure that you have the correct file name and try again.

CODCL7072E  An error occurred while accessing the Tivoli Common Directory.
Explanation:  An error occurred accessing the Tivoli Common Directory. Either you do not have the correct access permissions to access the directory or it does not exist. If it does not exist, it is possible that it was not created by the installation or it has been deleted or moved from the location in which it was created.
Action:  Check that the Tivoli Common Directory exists, and if it does ensure you have the correct access permissions. If the problem cannot be resolved in this way, contact IBM Software Support.

CODCL7073E  An internal error has occurred.
Explanation:  An internal error has occurred.
Action:  Contact IBM Software Support

CODCL7074E  Remote connection to the server is not allowed. The command has failed.
Explanation:  You are trying to connect to a server remotely. This is not permitted.
Action:  Issue the command from the server command line on the server computer.

CODCL7502E  An error occurred when changing the runtime password.
At least one of the characters you have entered is not valid:
- Valid characters are: A-Z a-z 0-9 + -
Explanation:  You have entered at least on character that is not valid.
Action:  Resubmit the command using only valid characters for the password.

CODCL7503E  The runtime password exceeds the maximum length of 20 characters.
Explanation:  The password you specified is too long.
Action:  Resubmit the command specifying a valid password.

CODCL7504E  The Tivoli License Manager runtime server has not been successfully started
Explanation:  Error starting the Tivoli License Manager runtime server.
Action:  Contact IBM Software Support.

CODCL7505E  The backup of the configuration files has failed: the backup directory has not been created or the files have not been copied.
Explanation:  See message text.
Action:  Check that the install directory has sufficient space and you have write permission in it and retry the command.
CODCL7506E  The operation has failed: the file permissions could not be set.
Explanation: See message text.
Action: Contact IBM Software Support.

CODCL7507E  The restore of the configuration files has failed: the backup directory could not be found or the files could not be copied.
Explanation: Check that you have not moved the backup directory or files.

Catalog manager error messages

CODCT3008E  An internal technical error has occurred.
Explanation: No further information is available.
Action: Contact IBM Software Support.

CODCT3009E  The database is corrupted.
Explanation: At least one control table value is corrupted.
Action: Contact IBM Software Support.

CODCT3101E  The product name you specified is too long.
Explanation: The product name cannot be longer than 240 ASCII characters.
Action: Change the value you specified for the product name and retry the operation.

CODCT3102E  The product version you specified is too long.
Explanation: The product version cannot be longer than 64 ASCII characters.
Action: Change the value you specified for the product version and retry the operation.

CODCT3103E  The product description you specified is too long.
Explanation: The product description cannot be longer than 300 ASCII characters.
Action: Change the value you specified for the product description and retry the operation.

CODCT3107E  The value you specified for the file name is not valid.
Explanation: The file name is a required field that must not be longer than 254 ASCII characters.

CODCT3110E  The value you specified for the J2EE module name is not valid.
Explanation: The J2EE module name is a required field that must not be longer than 254 ASCII characters.
Action: Change the value you specified for the module name and retry the operation.

CODCT3112E  The value specified for version is not correct.
Explanation: You must specify the version as follows:
For product level entries, no value;
For version level entries, a number;
For release level, two numbers separated by a dot (.).
Action: Change the value you specified for the version and retry the operation.

Action: Change the value you specified for the file name and retry the operation.

CODCL7508E  The srvstop command has failed because the WebSphere Application Server secure cell access credentials are incorrect.
Explanation: See message text.
Action: Check that the credentials you used are correct, and retry the command.

Action: If the backup directory or files have been deleted, contact IBM Software Support.
CODCT3113E The publisher ID field is not correct.
Explanation: The publisher ID must be a string comprising 32 hexadecimal characters.
Action: Change the value you specified for the publisher ID and retry the operation.

CODCT3114E The product ID field is not correct.
Explanation: The product ID must be a string comprising 16 hexadecimal characters.
Action: Change the value you specified for the product ID and retry the operation.

CODCT3115E The version ID field is not correct.
Explanation: The version ID must be a string comprising 16 hexadecimal characters.
Action: Change the value you specified for the version ID and retry the operation.

CODCT3116E The feature ID field is not correct.
Explanation: The feature ID must be a string comprising 16 hexadecimal characters.
Action: Change the value you specified for the feature ID and retry the operation.

CODCT3117E The key path you specified is too long.
Explanation: The key path cannot be longer than 254 ASCII characters.
Action: Change the value you specified for the key path and retry the operation.

CODCT3118E The key value you specified is too long.
Explanation: The key value cannot be longer than 254 ASCII characters.
Action: Change the value you specified for the key value and retry the operation.

CODCT3119E The database name you specified is too long.
Explanation: The database name cannot be longer than 8 ASCII characters.
Action: Change the value you specified for the database name and retry the operation.

CODCT3120E The specified size is not valid.
Explanation: The size must be a number that is not less than zero.
Action: Change the value you specified for the and retry the operation.

CODCT3121E The selected font cannot be used.
Explanation: The selected font cannot display the catalog manager dialogs properly.
Action: Select a different font.

CODCT3122E The trace settings have not been reloaded.
Explanation: It is possible that the log.properties file does not exist or is corrupt or that you do not have the correct permissions to access the file.
Action: If the file does not exist, catalog manager must be reinstalled. If the file exists, check your permissions and if these are adequate, check that values you have changed in the file are in the correct range and format.

CODCT3201E The selected file could not be loaded.
Explanation: The selected catalog file is for an unsupported version.
Action: Check that you have selected the correct file. If you have, contact IBM Software Support.

CODCT3202E An SQL exception occurred closing database connection.
Explanation: Database connection error.
Action: Retry the operation. If the problem persists, select exit from file menu and restart the Catalog Manager.

CODCT3203E At least one parser error occurred while The IBM catalog update file was being loaded.
Explanation: SAX parser error
Action: Download the latest IBM software catalog update.

CODCT3204E The creation or update operation failed.
Explanation: The automatic generation of product hierarchy failed.
Product Name: product_name
Product Version: product_version
Platform: platform
**Action:** Retry the operation manually specifying the product hierarchy.

**CODCT3205E** Catalog manager has failed to connect to the database.
**Explanation:** The user ID and password you entered do not identify a user who can access the database.
**Action:** Check whether the user ID and password are correct.

**CODCT3206E** The catalog information has not been imported.
**Explanation:** The catalog information could not be retrieved because of a database error.
**Action:** Retry the operation. If the problem persists, contact IBM Software Support.

**CODCT3208E** The changes to the module have not been saved.
**Explanation:** A database error prevented the update of the module table with the changed module details.
**Action:** Retry the operation. If the problem persists, contact IBM Software Support.

**CODCT3209E** The new module cannot be added to the database.
**Explanation:** A database error prevented the addition of the module to the database.
**Action:** Retry the operation. If the problem persists, contact IBM Software Support.

**CODCT3210E** The module cannot be retrieved from the database table.
**Explanation:** A database error occurred retrieving a module.
**Action:** Retry the operation. If the problem persists, contact IBM Software Support.

**CODCT3211E** The module cannot be deleted.
**Explanation:** A database error occurred while deleting the module.
**Action:** Retry the operation. If the problem persists, contact IBM Software Support.

**CODCT3212E** The search failed to return a product.
**Explanation:** A database error occurred while searching for products.
**Action:** Retry the operation. If the problem persists, contact IBM Software Support.

**CODCT3214E** The changes made to the product have not been saved.
**Explanation:** A database error occurred while saving changes to the product information and linked files.
**Action:** Retry the operation. If the problem persists, contact IBM Software Support.

**CODCT3215E** The product has not been added to the database.
**Explanation:** A database error occurred while adding the product.
**Action:** Retry the operation. If the problem persists, contact IBM Software Support.

**CODCT3216E** The product was not found.
**Explanation:** A database error occurred while searching for the product by the product ID.
**Action:** Retry the operation. If the problem persists, contact IBM Software Support.

**CODCT3217E** The product was not found.
**Explanation:** A database error occurred while searching for the product by the external ID.
**Action:** Retry the operation. If the problem persists, contact IBM Software Support.

**CODCT3218E** The product was not found.
**Explanation:** A database error occurred while searching for a product by product name, version, and platform.
**Action:** Retry the operation. If the problem persists, contact IBM Software Support.

**CODCT3222E** The list of software vendors has not been retrieved.
**Explanation:** A database error occurred while retrieving the vendors list.
**Action:** Retry the operation. If the problem persists, contact IBM Software Support.

**CODCT3224E** The vendor was not found.
**Explanation:** A database error occurred while retrieving the vendor ID by vendor name.
**Action:** Retry the operation. If the problem persists, contact IBM Software Support.
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CODCT3226E</td>
<td>The vendor cannot be saved.</td>
</tr>
<tr>
<td>Explanation:</td>
<td>A database error occurred while trying to save the vendor information.</td>
</tr>
<tr>
<td>Action:</td>
<td>Retry the operation. If the problem persists, contact IBM Software Support.</td>
</tr>
</tbody>
</table>

| CODCT3227E | The administration server ID cannot be retrieved.                        |
| Explanation: | A database error occurred while retrieving the administration server ID. |
| Action: | Retry the operation. If the problem persists, contact IBM Software Support. |

| CODCT3228E | The list of the linked modules cannot be retrieved.                      |
| Explanation: | A database error occurred while retrieving the modules list.            |
| Action: | Retry the operation. If the problem persists, contact IBM Software Support. |

| CODCT3229E | The links cannot be removed.                                             |
| Explanation: | A database error occurred deleting the modules list.                     |
| Action: | Retry the operation. If the problem persists, contact IBM Software Support. |

| CODCT3230E | The links cannot be stored.                                              |
| Explanation: | A database error occurred storing the modules list.                      |
| Action: | Retry the operation. If the problem persists, contact IBM Software Support. |

| CODCT3234E | The modules for the specified product were not retrieved.               |
| Explanation: | A database error occurred while trying to retrieve the modules that are linked to the specified product. |
| Action: | Retry the operation. If the problem persists, contact IBM Software Support. |

| CODCT3242E | An internal error has occurred.                                         |
| Explanation: | A database error occurred while committing SQL statements.             |
| Action: | Contact IBM Software Support.                                           |

| CODCT3243E | An internal error has occurred.                                         |
| Explanation: | A database error occurred while rolling back statements that had not been committed. |
| Action: | Contact IBM Software Support.                                           |

| CODCT3245E | The product you specified has not been added.                           |
| Explanation: | The specified version or release already exists and is linked to a different product or version from one you specified. |
| Name: | product_name                                                           |
| Version: | version_number                                                        |
| Platform: | platform                                                             |
| Action: | Check the values you have specified and retry the operation.           |

| CODCT3247E | The following product has not been created because it already exists in the database: |
| Explanation: | Product: prodname                                                      |
| Version: | prodvers                                                              |
| Platform: | platform                                                              |
| Action: | Check the values you have specified and retry the operation.           |

| CODCT3248E | The following module has not been created because it already exists in the database: |
| Explanation: | Module Name: filename                                                   |
| Size: | file_size                                                             |
| Operating System: | platform                                                             |
| Action: | Check the values you have specified and retry the operation.           |

| CODCT3249E | The following unknown module has not been disabled:                    |
| Explanation: | File name: filename                                                     |
| File size: | file_size                                                              |
| Platform: | platform                                                              |
| Action: | Check the values you have specified and retry the operation.           |

| CODCT3250E | The following unknown module has not been deleted:                     |
| Explanation: | File name: filename                                                     |
| File size: | file_size                                                              |
Platform: platform

**Action:** Check the values you have specified and retry the operation.

---

**CODCT3251E** The list of unknown files has not been retrieved from the database.

**Explanation:** A database error occurred while retrieving the unknown files.

**Action:** Retry the operation. If the problem persists, contact IBM Software Support.

---

**CODCT3252E** The component cannot be deleted.

**Explanation:** A database error occurred while deleting the component.

**Action:** Retry the operation. If the problem persists, contact IBM Software Support.

---

**CODCT3253E** The database is not the correct version for this code.

**Explanation:** No further information available.

**Action:** Check the database and catalog manager versions.

---

**CODCT3254E** The IBM catalog cannot be imported.

**Explanation:** You are trying to import a version of the IBM catalog that is earlier than the one that you last imported.

**Action:** Select the correct IBM catalog to import.

---

**CODCT3255E** The changes to the product database that you defined cannot be saved.

**Explanation:** Since you started this task, another user has made changes to the product database that could have an impact on your changes.

**Action:** Reselect the task, and start again.

---

**CODCT3256E** The changes to the product database that you defined cannot be saved.

**Explanation:** No changes can currently be made to the product database because an import of the IBM catalog is in progress.

**Action:** Wait until the import of the IBM catalog ends and try again.

---

**CODCT3257E** The changes to the product database that you defined cannot be saved.

**Explanation:** Another process has locked the database tables. You will not be able to make this or any change until the process releases the database tables.

**Action:** Allow some time for the other process to complete and then retry the operation.

---

**CODCT3501E** An internal error has occurred.

**Explanation:** An unidentified error has occurred.

**Action:** Contact IBM Software Support.

---

**CODCT6001E** The catalog manager configuration file could not be written.

**Explanation:** File CM_Conf.properties could not be found, or you do not have the correct permissions to write this file.

**Action:** If the file is missing, you must reinstall the catalog manager.

If the file is present, check the file permissions and change them if necessary.

---

**CODCT6002E** Resource resource_name cannot be found.

**Explanation:** It was not possible to access this resource. The resource might be missing or there might be a problem with your file permissions for the directory where the resource is held.

**Action:** Exit from the catalog manager. If the resource is missing, you must reinstall the catalog manager.

If the resource is present, check the permissions for the "resources" directory and change them if necessary.

---

**CODCT6003E** File filename could not be accessed.

**Explanation:** There might be a problem with your file permissions for the folder where the file is located.

**Action:** Exit from the catalog manager. If the file is missing, you must reinstall the catalog manager.

If the file is present, check the file permissions and change them if necessary.

---

**CODCT6004E** A language-specific string cannot be accessed.

**Explanation:** The resource key: resource_key in the bundle: bundle_name was not found. It is possible that the bundle is missing or corrupted or there might be a problem with your file permissions for the "resources" folder.

**Action:** Exit from the catalog manager. If the file is present, check the file permissions and change them if necessary. Restart the catalog manager and if the problem persists, reinstall catalog manager.

If the file is missing, you must reinstall the catalog manager.
**CODCT6005E** The catalog manager configuration file could not be loaded.

**Explanation:** File CM_Conf.properties could not be found, or you do not have the correct permissions to read this file.

**Action:** Check that JDBC driver and its classpath are correct.

---

**CODCT6006E** A connection to the specified database cannot be established.

**Explanation:** You have either specified the wrong database name, or the host name and port entered during installation to configure the DB2 client access to the administration server database were wrong.

**Action:** Check that the administration database has been successfully migrated. If it has not, ensure that the migration has been successful before trying to use the catalog manager.

---

**CODCT6007E** The catalog manager configuration file could not be loaded.

**Explanation:** File CM_Conf.properties could not be found, or you do not have the correct permissions to read this file.

**Action:** If the file is missing, you must reinstall the catalog manager.

If the file is present, check the file permissions and change them if necessary.

---

**CODCT6006E** A connection to the specified database cannot be established.

**Explanation:** You have either specified the wrong database name, or the host name and port entered during installation to configure the DB2 client access to the administration server database were wrong.

**Action:** Check that you are using the correct database name. If you are, you must change the DB2 client cataloging to correctly identify the administration server database host and port.

---

**CODCT6007E** An error occurred instantiating JDBC driver.

**Explanation:** The driver driver_name, specified in the configuration file cannot be found.

---

**Catalog manager warning messages**

**CODCT2000W** Do you want to exit from the catalog manager?

**Explanation:** If you close this session, any unsaved updates will be lost.

**Action:** Click OK if you want to close the catalog manager. Otherwise click Cancel.

---

**CODCT2004W** You have chosen to delete a module. Do you want to continue?

**Explanation:** If you delete a module, use of the module cannot be monitored.

If no modules are linked to a product, use of the product cannot be detected.

**Action:** Click OK if you want to delete the module. Otherwise click Cancel.

---

**CODCT2005W** You have chosen to delete the selected product. Do you want to continue?

**Explanation:** If you delete the product, it can no longer be monitored by Tivoli License Manager.

---

**Catalog manager command line messages**
CODCT3600E  You have selected a locale that is not supported. The following locales are supported: VALUE_0.

Explanation: You have selected a locale that is not supported.

Action: Resubmit the command with a valid locale.

CODCT3601E  The command failed because the parameter VALUE_0 is not valid. The correct usage is:

log2xml [-help | -t | -m [locale]]

-t = convert trace log files
-m = convert message log files
locale = language used for message text

Explanation: You have specified an invalid parameter.

Action: Correct the syntax and try again.

CODCT3602E  The conversion has not been performed because the log file directory VALUE_0 did not contain log files.

Explanation: The log directory is empty. It is possible that logging has failed because of access permission or space problems.

Action: Ensure that the log directory is accessible and can be written to by the trace or messaging component.

CODCT3603E  The command failed because the log directory was not found. The log directory VALUE_0 is missing.

Explanation: The trace or message directory was not found. It is possible that files have been deleted or the trace or message component has not correctly initialized.

Action: Contact IBM Software Support.

CODCT3604E  An error occurred converting the [0] file. The file may be corrupt or not valid.

Explanation: The log2xml command skipped the file because it was corrupted or missing. It is possible that the file was renamed and so has not been recognized by the command.

Action: Check the files in the trace or message directory. If a file name has been changed you must change it back before it can be converted.

CODCT3605E  Input file VALUE_0 was not found.

Explanation: The specified file cannot be found.

Action: Ensure that you have the correct file name and try again.

CODCT3606E  An error occurred while accessing the Tivoli Common Directory.

Explanation: An error occurred accessing the Tivoli Common Directory. Either you do not have the correct access permissions to access the directory or it does not exist. If it does not exist, it is possible that it was not created by the installation or it has been deleted or moved from the location in which it was created.

Action: Check that the Tivoli Common Directory exists, and if it does ensure you have the correct access permissions. If the problem cannot be resolved in this way, contact IBM Software Support.

CODCT3607E  The trace files have not been copied to the ffdc directory.

Explanation: The command failed to collect the trace files. There might be a problem with your access permissions to the trace or to the ffdc directory, or there might be a disk space problem.

Action: Check the directory permissions and the available disk space and retry the command.

CODCT3608E  The configuration files have not been copied to the ffdc directory.

Explanation: The command failed to collect the configuration files. There might be a problem with your access permissions to the configuration directory or to the ffdc directory, or there might be a disk space problem.

Action: Check the directory permissions and the available disk space and retry the command.

CODCT3609E  The database connection could not be established probably due to an incorrect logon.

Explanation: The command failed because it was not possible to connect to the database.

Action: Check the database user and password and retry the command.

CODCT3610E  At least one error occurred during the dump of the database key tables.

Explanation: The database dump failed.

Action: Contact IBM Software Support.

CODCT3611E  At least one error has occurred. Note any error messages output from the script and send them, and the created folder to IBM Software Support.

Explanation: At least one internal error occurred while the script was running.
Action: Contact IBM Software Support

CODCT3612E The ffdc directory could not be created.

Explanation: Tivoli License Manager cannot create the directory. It is possible that you do not have the correct permissions to create the directory or that there is insufficient disk space to create the directory.

Action: Check the directory access permissions and the disk space and try again.

CODCT3699E An unidentified error has occurred.

Explanation: An internal error has occurred.

Action: Contact IBM Software Support.

CODCT3700I VALUE_0 of VALUE_1 log files have been successfully converted to XML format. The XML files have been saved in the directory directory_name.

Explanation: No additional information is available for this message.

CODCT3701I The conversion has been successfully completed. The output file is: VALUE_0

Explanation: No additional information is available for this message.

CODCT3702I The collection was successful. You can now send the created folder to IBM Software Support.

Explanation: No additional information is available for this message.

Agent messages

CODAG002E - Error &1 occurred while attempting to start &2.

Explanation: The agent service or a subcomponent of the service has not been started.

Action: See the table of agent error codes in Tivoli License Manager Problem Determination.

CODAG004E - An error occurred stopping the agent.

Explanation: See message text.

Action: Retry the operation. If the problem persists, contact IBM Software Support.

CODAG005W - The agent is already installed.

Explanation: See message text.

Action: None.

CODAG006W - &1 is already running.

Explanation: See message text.

Action: None.

CODAG007W - &1 is not running and so cannot be stopped.

Explanation: See message text.

Action: None.

CODAG008W - The agent is not installed and so cannot be removed.

Explanation: See message text.

Action: Retry the command.
<table>
<thead>
<tr>
<th>Code</th>
<th>Message Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CODAG014E</td>
<td>The command cannot be run as the agent encountered a communication problem.</td>
</tr>
<tr>
<td>Explanation:</td>
<td>See message text.</td>
</tr>
<tr>
<td>Action:</td>
<td>Retry the command.</td>
</tr>
<tr>
<td>CODAG015E</td>
<td>The command cannot be run as the agent has timed out.</td>
</tr>
<tr>
<td>Explanation:</td>
<td>See message text.</td>
</tr>
<tr>
<td>Action:</td>
<td>Retry the command.</td>
</tr>
<tr>
<td>CODAG016E</td>
<td>An error occurred starting the agent.</td>
</tr>
<tr>
<td>Explanation:</td>
<td>See message text.</td>
</tr>
<tr>
<td>Action:</td>
<td>Retry the command.</td>
</tr>
<tr>
<td>CODAG017E</td>
<td>The agent cannot start as the National Language Support (NLS) cannot be initialized.</td>
</tr>
<tr>
<td>Explanation:</td>
<td>See message text.</td>
</tr>
<tr>
<td>Action:</td>
<td>Contact IBM Software Support.</td>
</tr>
<tr>
<td>CODAG018E</td>
<td>The command is not supported on this platform.</td>
</tr>
<tr>
<td>Explanation:</td>
<td>See message text.</td>
</tr>
<tr>
<td>Action:</td>
<td>None.</td>
</tr>
<tr>
<td>CODAG019E</td>
<td>An error occurred scheduling the command.</td>
</tr>
<tr>
<td>Explanation:</td>
<td>See message text.</td>
</tr>
<tr>
<td>Action:</td>
<td>Retry the command.</td>
</tr>
<tr>
<td>CODAG020E</td>
<td>An error occurred loading the agent configuration file, tlmagent.ini.</td>
</tr>
<tr>
<td>Explanation:</td>
<td>See message text.</td>
</tr>
<tr>
<td>Action:</td>
<td>Ensure that the file exists and that you have the correct access permissions, then retry the command. If the problem persists, contact IBM Software Support.</td>
</tr>
<tr>
<td>CODAG021E</td>
<td>An error occurred deleting the agent service.</td>
</tr>
<tr>
<td>Explanation:</td>
<td>See message text.</td>
</tr>
<tr>
<td>Action:</td>
<td>None.</td>
</tr>
<tr>
<td>CODAG023E</td>
<td>The configuration file has been reloaded but some parameters are not valid and have been replaced by default values.</td>
</tr>
<tr>
<td>Explanation:</td>
<td>At least one parameter in the configuration file have been wrongly defined. See the chapter on agent tracing in Tivoli License Manager: Problem Determination for information about valid settings.</td>
</tr>
<tr>
<td>Action:</td>
<td>Check the file and correct any parameters that are not valid.</td>
</tr>
<tr>
<td>CODAG024E</td>
<td>You are not authorized to run the specified command.</td>
</tr>
<tr>
<td>Explanation:</td>
<td>See message text.</td>
</tr>
<tr>
<td>Action:</td>
<td>None.</td>
</tr>
<tr>
<td>CODAG025E</td>
<td>An error occurred loading the logger configuration file, tlmlog.properties.</td>
</tr>
<tr>
<td>Explanation:</td>
<td>See message text.</td>
</tr>
<tr>
<td>Action:</td>
<td>Ensure that the file exists and that you have the correct access permissions, then retry the command. If the problem persists, contact IBM Software Support.</td>
</tr>
<tr>
<td>CODAG026E</td>
<td>An error occurred deleting the agent configuration file.</td>
</tr>
<tr>
<td>Explanation:</td>
<td>See message text.</td>
</tr>
<tr>
<td>Action:</td>
<td>None.</td>
</tr>
<tr>
<td>CODAG027E</td>
<td>An error occurred deleting the agent service.</td>
</tr>
<tr>
<td>Explanation:</td>
<td>See message text.</td>
</tr>
<tr>
<td>Action:</td>
<td>Retry the command.</td>
</tr>
<tr>
<td>CODAG028E</td>
<td>The configuration file is corrupt. Default values are being used.</td>
</tr>
<tr>
<td>Explanation:</td>
<td>See message text.</td>
</tr>
<tr>
<td>Action:</td>
<td>Contact IBM Software Support.</td>
</tr>
<tr>
<td>CODAG029E</td>
<td>An error occurred deleting the agent service.</td>
</tr>
<tr>
<td>Explanation:</td>
<td>See message text.</td>
</tr>
<tr>
<td>Action:</td>
<td>Retry the command.</td>
</tr>
<tr>
<td>CODAG030E</td>
<td>An error occurred loading the agent configuration file.</td>
</tr>
<tr>
<td>Explanation:</td>
<td>See message text.</td>
</tr>
<tr>
<td>Action:</td>
<td>Ensure that the file exists and that you have the correct access permissions, then retry the command. If the problem persists, contact IBM Software Support.</td>
</tr>
</tbody>
</table>
WebSphere Application Server Agent messages

CODWA0006E Cannot write to the configuration file.
Explanation: If was not possible to write the changes to the configuration file. It is possible that you do not have the correct permissions.
Action: Ensure that you have write access to the file and try again.

CODWA5001W Cannot reload the trace configuration. Default settings are being used.
Explanation: File itlm.log could not be found, or you do not have the correct permissions to read this file.
Action: Check the file permissions and change them if necessary.

CODWA6002E An error occurred creating first failure data capture.
Explanation: The command could not copy trace and message information to the ffdc directory. You might not have the correct permissions to write to the directory, or there might not be enough space.
Action: Ensure that there is sufficient free space and check the permissions to the directory. If the problem persists contact IBM software support.

CODWA6003E The credentials have not been set because the values you supplied are incorrect.
Explanation: You have supplied incorrect credentials for the server.
Action: Check the credentials and try again.

CODWA6004E The credentials have not been set because the server could not be found.
Explanation: Cannot find the server for which you are trying to set credentials.
Action: Ensure that the path you have supplied is correct and try again.

CODWA6005E It was not possible to make a connection.
Explanation: The number of current connections is above the threshold.

OS/400 agent messages

CODWA6006E The connection has been refused because only local connections are allowed.
Explanation: For security reasons you cannot connect remotely.
Action: Connect locally and try again.

CODWA6007E The command has failed because of incorrect syntax.
Explanation: The syntax you have defined for this command is incorrect.
Action: Use the help to get the correct syntax and try again.

CODWA6008E The WebSphere Application Server agent configuration file could not be read.
Explanation: There might be a problem with your access permissions or the file might not exist or might be corrupted.
Action: Check your access permissions and change them if necessary. If the problem persists, contact IBM Software Support.

CODWA6009E It was not possible to connect to the WebSphere Application Server agent command line.
Explanation: The WebSphere Application Server agent might not be active.
Action: Check the status of the agent and start it if necessary. If the problem persists, contact IBM Software Support.

CODWA6010E The WebSphere Application Server agent command line connection has been closed.
Explanation: See message text.
Action: Try to reestablish the connection.
SLM0001  IBM Tivoli License Manager agent is not active.

Type:  Escape

Explanation: The license was granted without any checks being made because the agent was not active when the call was made.

Action: Start the IBM Tivoli License Manager agent by using the Start TCP Server command and specifying the IBM Tivoli License Manager agent (STRTCPVR SERVER(*ITLMAGENT)).

Destination: The message is logged in the application job log, the QSYSOPR message queue, and the QITLM message queue.

SLM0002  IBM Tivoli License Manager agent is not installed.

Type: Escape

Explanation: The license was granted without any checks being made because the agent was not installed when the call was made.

Action: Install the agent on the node where the application is running.

Destination: The message is logged in the application job log, the QSYSOPR message queue, and the QITLM message queue.

SLM0003  IBM Tivoli License Manager has granted a license in offline mode.

Type: Escape

Explanation: A license for product <product_ID>, release <release_ID>, feature <feature_ID> was granted in offline mode because the IBM Tivoli License Manager runtime server is not available.

Action: Ensure that the runtime server is restarted.

Destination: The message is logged in the application job log, the QSYSOPR message queue, and the QITLM message queue.

SLM0004  The license request has been granted but the product usage is not being monitored by IBM Tivoli License Manager.

Type: Escape

Explanation: No information about usage of the product will be collected because monitoring is disabled for product <product_ID>, version <version_ID>, feature <feature_ID>.

Action: If you want usage to be monitored, you must change the product settings on the administration server.

Destination: The message is logged in the application job log, the QSYSOPR message queue, and the QITLM message queue.

SLM0005  The license request has been granted without any validation by the IBM Tivoli License Manager runtime server.

Type: Escape

Explanation: The enforcement level of product <product_ID>, release <release_ID>, feature <feature_ID> is None. The license request can be granted and released by the agent without communicating with the runtime server.

Action: If you want enforcement of license conditions for this product, you must change the enforcement settings on the administration server.

Destination: The message is logged in the application job log, the QSYSOPR message queue, and the QITLM message queue.

SLM0006  The license request has been granted though no valid license for this product has been created by IBM Tivoli License Manager.

Type: Escape

Explanation: The enforcement level for product <product_ID>, version <version_ID>, feature <feature_ID> is None. The runtime server granted the license request even though no valid license exists.

Action: If you want a stricter enforcement of license conditions for this product, you must change the enforcement settings on the administration server.

Destination: The message is logged in the application job log, the QSYSOPR message queue, and the QITLM message queue.

SLM0007  The license request has been granted but the product is not recognized by IBM Tivoli License Manager.

Type: Escape

Explanation: There is no entry for product <product_ID>, release <release_ID>, feature <feature_ID> in the IBM Tivoli License Manager runtime catalog held on the agent. The product has been started as an unknown application and added to the list of unknown files.

Action: The product may be included in the master catalog. If it is it will be automatically added to the runtime catalog when the unknown files list is sent to the runtime server. Otherwise, you must import a new version of the IBM catalog. See the Tivoli License Manager documentation for information about importing the catalog.
**Destination:** The message is logged in the application job log, the QSYSOPR message queue, and the QITLM message queue.

---

**SLM0008**  The license request has been refused by IBM Tivoli License Manager.

**Type:** Escape

**Explanation:** The license for product `<product_ID>`, version `<version_ID>`, feature `<feature_ID>` was refused because the request does not satisfy the license conditions.

**Action:** Check that the license for this product has been correctly set up on the administration server Web interface.

**Destination:** The message is logged in the application job log, the QSYSOPR message queue, and the QITLM message queue.

---

**SLM0009**  The license request has been refused by IBM Tivoli License Manager.

**Type:** Escape

**Explanation:** The license for product `<product_ID>`, version `<version_ID>`, feature `<feature_ID>` was refused because there is not enough capacity.

**Action:** Change the available capacity in the license for this product using the administration server Web interface.

**Destination:** The message is logged in the application job log, the QSYSOPR message queue, and the QITLM message queue.

---

**SLM000A**  The license was not granted because the IBM Tivoli License Manager runtime server was not available.

**Type:** Escape

**Explanation:** The product `<product_ID>`, release `<release_ID>`, feature `<feature_ID>` is not allowed to run offline. The license request could not be granted because the runtime server is not available.

**Action:** Ensure that the runtime server is restarted.

**Destination:** The message is logged in the application job log, the QSYSOPR message queue, and the QITLM message queue.

---

**SLM0101**  At least one of the input parameters is invalid.

**Type:** Escape

**Explanation:** The request could not be processed because it contained an invalid parameter.

**Action:** Correct the parameters defined in the API and retry the request.
Appendix B. The command line interface

This chapter describes how to use the command line interfaces on the administration and runtime servers. It includes the following information:

- Instructions for accessing the Tivoli License Manager command windows on the administration and runtime servers. See "Accessing the command line interface."
- Information about use of the Windows command line in Western European languages. See "Command line output on Windows systems" on page 132.
- A summary of the problem determination and related commands and instructions for their use. See "Problem determination commands" on page 132.

Accessing the command line interface

The Tivoli License Manager command line can be used only by Windows users with administrator rights and user root on UNIX platforms. On UNIX platforms, commands must be launched from the korn shell.

Table 17 shows the methods of accessing the command line interface for administration and runtime servers on Windows and UNIX platforms.

Table 17. Accessing the command line on Windows and UNIX servers

<table>
<thead>
<tr>
<th>Server</th>
<th>Platform</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration</td>
<td>Windows</td>
<td>Open the Start menu and click Tivoli License Manager &gt;Admin CLI.</td>
</tr>
<tr>
<td>Runtime</td>
<td>Windows</td>
<td>Open the Start menu and click Tivoli License Manager &gt;Runtime CLI.</td>
</tr>
<tr>
<td>Administration</td>
<td>UNIX</td>
<td>Do the following:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1. Open a shell window and change to the directory:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&lt;INSTALL_DIR&gt;/admin/cli</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Enter the command:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>./tlmcli</td>
</tr>
<tr>
<td>Runtime</td>
<td>UNIX</td>
<td>Do the following:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1. Open a shell window and change to the directory:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&lt;INSTALL_DIR&gt;/runtime/cli</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Enter the command:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>./tlmcli</td>
</tr>
</tbody>
</table>

Note: The problem determination tool commands pdtool, viewer, log2xml, and statusinfo are available for the catalog manager component as well as for the administration and runtime server components. The catalog manager does not have a command line interface, but the problem determination tools can be used for the server and catalog manager components by launching scripts from the following locations:

Administration server

<Tivoli_Common_Dir>\COD\scripts\admin
Accessing the CLI

Runtime server
<Tivoli_Common_Dir>COD\scripts\runtime

Catalog manager
<Tivoli_Common_Dir>COD\scripts\catman

Command line output on Windows systems
In Western European languages, the translated output of Tivoli commands on Windows operating systems is encoded using the Windows 1252 code page. To view this text correctly in a DOS command window, perform the following steps:
1. Enter the following command:
   `chcp 1252`
2. Set the font for that window to Lucida Console.

Problem determination commands
Table 18 on page 133 shows the commands that are available on the Tivoli License Manager servers and that you might need for problem determination. Some of the commands are specifically designed for problem determination, for example the viewer command that displays trace and message log files in an HTML format. Others are more general but might be required when investigating problems, for example, `startsrv` and `stopsrv` commands for starting and stopping the servers. The general commands are restricted to one or both of the server components, while the specific problem determination tools are available for the administration server, runtime servers, and the catalog manager.
### Table 18. Commands required for problem determination

<table>
<thead>
<tr>
<th>Command</th>
<th>Component</th>
<th>Purpose</th>
<th>See Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>dbpasswd</td>
<td>• Administration server</td>
<td>To change the password for the DB2 database that is</td>
<td>134</td>
</tr>
<tr>
<td></td>
<td>• Runtime server</td>
<td>associated with the administration or runtime server.</td>
<td></td>
</tr>
<tr>
<td>Help</td>
<td>• Administration server</td>
<td>To provide assistance in using the command line</td>
<td>135</td>
</tr>
<tr>
<td></td>
<td>• Runtime server</td>
<td></td>
<td></td>
</tr>
<tr>
<td>log2xml</td>
<td>• Administration server</td>
<td>To convert the message and trace logs to XML format.</td>
<td>136</td>
</tr>
<tr>
<td></td>
<td>• Runtime server</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Catalog manager</td>
<td></td>
<td></td>
</tr>
<tr>
<td>logreload</td>
<td>• Administration server</td>
<td>To reload the message and trace settings (after they have been changed).</td>
<td>138</td>
</tr>
<tr>
<td></td>
<td>• Runtime server</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pdtool</td>
<td>• Administration server</td>
<td>Launch the problem determination tool.</td>
<td>139</td>
</tr>
<tr>
<td></td>
<td>• Runtime server</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Catalog manager</td>
<td></td>
<td></td>
</tr>
<tr>
<td>rtpasswd</td>
<td>• Runtime server</td>
<td>To change the password for the runtime server.</td>
<td>143</td>
</tr>
<tr>
<td>sslpasswd</td>
<td>• Administration server</td>
<td>To change the secure sockets (SSL) password.</td>
<td>142</td>
</tr>
<tr>
<td></td>
<td>• Runtime server</td>
<td></td>
<td></td>
</tr>
<tr>
<td>statusinfo</td>
<td>• Administration server</td>
<td>To assemble information about a problem to send to IBM Software Support.</td>
<td>143</td>
</tr>
<tr>
<td></td>
<td>• Runtime server</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Catalog manager</td>
<td></td>
<td></td>
</tr>
<tr>
<td>viewer</td>
<td>• Administration server</td>
<td>To convert message and trace logs and display them in an HTML format.</td>
<td>145</td>
</tr>
<tr>
<td></td>
<td>• Runtime server</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Catalog manager</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
dbpasswd

**dbpasswd**

Use this command on either the administration server or the runtime server to change the password used to connect to their respective DB2 databases.

**Note:** This command changes the encrypted value of the password held in the passwd.properties file. This value must match the password defined on the operating system for the tlmsrv user.

**Syntax**

dbpassword

You are requested to input the old password and the new password. The password maximum length is 20 characters, and can contain only the following characters:

A–Z, a–z, 0–9, +, –

**Authorization**

Windows A user with administrator rights.

UNIX root

**See Also**

rtpasswd

sslpasswd
help

Use this command to find out which commands are available on the administration or runtime server. You can also use help to obtain information about a command by entering help command name.

Syntax
help[cmd command name]

Options
cmd Enter the name of the command for which you want to view help.

Authorization
Windows A user with administrator rights.
UNIX root

Examples
To find out which commands are available on the administration server, type the following at the administration server command prompt:

help

A list similar to the following is displayed:

changeAdminAuth Change the administration server authentication method.
changeRuntimeAuth Change the administration server authentication method.
csv2xml Convert data from CSV to XML files.
dataimp Import data from XML or CSV files.
dataexp Export data into XML or CSV files.
dbpasswd Change the IBM(r) DB2(r) user password.
impcat Import catalog data.
info Print useful information about the administration server configuration.
logreload Reload the message and trace settings.
log2xml Convert the message and trace logs to XML format.
pdtool Launch the problem determination tool.
srvstart Start the administration server.
srvstop Stop the administration server.
statusinfo Collect information to be sent to the IBM(r) support team for diagnostic purposes.
sslpsswd Set the secure socket layer password.
viewer Convert logs and traces to HTML format.
xml2csv Convert data from XML to CSV files.

See Also
None
Use this command to convert the message logs or traces to XML format.

**Syntax**

```shell
log2xml [[-t | -m [locale]]]
```

**Options**

- `-t`  
  Optional: Defines the type of data to be converted. The options are as follows:
  - `-t`  
    Convert the traces. This is the default.

  The output trace files are created in the directory where the trace logs are stored. The command displays a message indicating their location. They have the same name as the trace log files, but with the extension `.xml` instead of `.log`. If the files already exist (from a previous use of the command) they will be overwritten.

- `-m [locale]`
  Convert the message logs. The log files created by Tivoli License Manager contain just the message numbers and the variables being used by the messages. This option expands the messages into XML format, adding the message text, explanation, and user action (as displayed online) for each message.

  locale  
  Optional: the locale into which the message logs should be converted. If no locale is specified, the default locale is US English.

  The information to expand the messages is taken from the message bundle files which are available in the languages supported by the product. Thus, if you are using an Italian version of the product, on an Italian language operating system, the default action will convert the messages into Italian. The following locales are supported:

  - de  
    German
  - en_US  
    US English
  - es  
    Spanish
  - fr  
    French
  - it  
    Italian
  - ja  
    Japanese
  - ko  
    Korean
  - pt_BR  
    Portuguese (Brazilian)
  - zh_CN  
    Simplified Chinese
  - zh_TW  
    Traditional Chinese

  The output message log files are created in a locale subdirectory (which is created if it does not already exist) of the directory where the message logs are stored. The command displays a message indicating their location. They have the same name as the message log files, but with the extension `.xml` instead of `.log`. If the files already exist (from a previous use of the command) they will be overwritten.

**Authorization**

Windows  
A user with administrator rights.
UNIX root

**Examples**

1. To convert the traces into XML format, issue the following command:
   
   log2xml

   The conversion of the traces is the default action.

2. To convert the message logs into XML format in the locale of the computer where the command is being run, issue the following command:
   
   log2xml -m

3. To convert the message logs into XML format in the `en_US` locale, issue the following command:
   
   log2xml -m en_US

**See Also**

[pdtool](#)
logreload

logreload

Use this command to reload the message and trace settings from the `log.properties` file after you have modified them, and while the Tivoli License Manager server to which they relate is running.

**Syntax**

`logreload [-p portNumber]`

**Options**

`-p portNumber`

Optional: Defines the port number to use when the logreload task communicates with the server. The default is 80.

**Authorization**

Windows   A user with administrator rights.

UNIX      root

**Examples**

1. To reload the logs on a Tivoli License Manager server that is using the default port 80, issue the following command:
   `logreload`

2. To reload the logs on a Tivoli License Manager server that is using a non-default port, issue the following command:
   `logreload -p 8090`

**See Also**

None.
pdtool

Use this command to launch the problem determination tool. The problem determination tool extracts error messages that identify problems with configuration or environment settings.

Syntax
pdtool [locale]

Options
locale  Optional: The problem determination tool uses the locale to determine in which language to expand the messages that it has selected. The default value is the locale of the computer where you are running the command. To see the messages in a different language, enter a value from the list of supported locales:

<table>
<thead>
<tr>
<th>Locale</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>de</td>
<td>German</td>
</tr>
<tr>
<td>en_US</td>
<td>US English</td>
</tr>
<tr>
<td>es</td>
<td>Spanish</td>
</tr>
<tr>
<td>fr</td>
<td>French</td>
</tr>
<tr>
<td>it</td>
<td>Italian</td>
</tr>
<tr>
<td>ja</td>
<td>Japanese</td>
</tr>
<tr>
<td>ko</td>
<td>Korean</td>
</tr>
<tr>
<td>pt_BR</td>
<td>Portuguese (Brazilian)</td>
</tr>
<tr>
<td>zh_CN</td>
<td>Simplified Chinese</td>
</tr>
<tr>
<td>zh_TW</td>
<td>Traditional Chinese</td>
</tr>
</tbody>
</table>

locale  Optional: the locale into which the message logs should be converted. If no locale is specified, the default locale is US English.

The information to expand the messages is taken from the message bundle files which are available in the languages supported by the product. Thus, if you are using an Italian version of the product, on an Italian language operating system, the default action will convert the messages into Italian. The following locales are supported:

<table>
<thead>
<tr>
<th>Locale</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>de</td>
<td>German</td>
</tr>
<tr>
<td>en_US</td>
<td>US English</td>
</tr>
<tr>
<td>es</td>
<td>Spanish</td>
</tr>
<tr>
<td>fr</td>
<td>French</td>
</tr>
<tr>
<td>it</td>
<td>Italian</td>
</tr>
<tr>
<td>ja</td>
<td>Japanese</td>
</tr>
<tr>
<td>ko</td>
<td>Korean</td>
</tr>
<tr>
<td>pt_BR</td>
<td>Portuguese (Brazilian)</td>
</tr>
<tr>
<td>zh_CN</td>
<td>Simplified Chinese</td>
</tr>
<tr>
<td>zh_TW</td>
<td>Traditional Chinese</td>
</tr>
</tbody>
</table>

Authorization
Windows  A user with administrator rights.
UNIX  root

Examples
1. To launch the problem determination tool using the default locale of the computer on which the command is issued, type the following:
   pdtool
2. To launch the problem determination tool using the it locale, type the following:
See Also
None.
rtpasswd

Use this command to change the password for the runtime server, which is required to authenticate communications with the administration server.

A value for the runtime server password is also held in the administration server database; it was set up during the installation process. If there is a mismatch between the password in the administration server and that being used by the runtime server, you can use this command on its own to change the runtime server password so that it matches the value on the administration server (which it must always do for successful communications).

If you want to change the runtime server password for security reasons, you should first change the password for the server stored in the administration server database, using the administration server Web UI, then use this command to change it on the runtime server computer.

Syntax
rtpasswd

You are requested to enter the old password and the new password that you want to be used by the runtime server when connecting to the administration server.

The password has a maximum length of 20 characters and can contain only the following characters:

A–Z, a–z, 0–9, +, –

Authorization
Windows A user with administrator rights.
UNIX root

See Also
dbpasswd
sslpasswd
sslpasswd

sslpasswd

Use this command to change the SSL password for the administration or runtime servers. This is required to authenticate secure communications from the server.

Syntax

sslpasswd

You are requested to enter the old password and the new password that you want to be used by the runtime server when using SSL communications with the administration server.

The password has a maximum length of 20 characters and can contain only the following characters:

A–Z, a–z, 0–9, +, –

Authorization

Windows    A user with administrator rights.
UNIX       root

See Also

dbpasswd
rtpasswd
Use this command to assemble problem determination information about the administration server, runtime server, or catalog manager and write it to a timestamped subdirectory in the Tivoli Common Directory. You can then forward this information to IBM Software Support.

**Syntax**

```
statusinfo database_user[database_name]
```

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>database_user</strong></td>
<td>The user name of a user with at least read access to the database. When you launch the command, you are requested to input the password for this user ID.</td>
</tr>
<tr>
<td><strong>database_name</strong></td>
<td>The name of the database you want to access. This parameter is only required when the command is launched from the catalog manager scripts directory. This is because the catalog manager can manage the database or more than one administration server, while each server is associated with only one database.</td>
</tr>
</tbody>
</table>

**Authorization**

Windows

A user with administrator rights.
statusinfo

UNIX     root

Examples
To find out information about the administration server, type the following at the
administration server command prompt:
info

A list similar to the following is displayed:
Server version  : 2.1
Install path    : C:\Program Files\IBM\TLM\admin
Database name   : TLMAODB

See Also
None
viewer

Use this command to convert the message logs or traces to an HTML or text format. A query parameter is available that enables you to filter information to be included in the output file. The query enables you to determine which trace entries are to be included and which columns are to be displayed for each entry.

The viewer command is a script that combines the Tivoli License Manager log2xml command and the standard Tivoli Log XML viewer. The Log XML viewer has a standard set of columns to which the converted trace and message information is mapped. The viewer command defines a standard set of columns for trace and a standard set for messages. You can use the query parameter to change the column selection as well as to filter the trace or message log entries that are included in the output HTML file. The query parameter is a parameter of Log XML viewer. Some examples of its use are given here, but for a full description of the queries that can be defined, you should consult the Log XML viewer readme file.

Syntax

viewer [−t|−m ] [locale]
   [input file] [input file]
   [−q query string | −f [file name]]
   [−s { text | html }]

Options

[−t|−m ]
Optional: Defines the type of data to be converted. The options are as follows:
−t Convert the traces. This is the default.
   The output files are created in the directory where the trace logs are stored. The command displays a message indicating their location. The command creates a single HTML or text file, which merges all the trace files that were found in the trace log directory. It also creates individual XML files for each converted file. If the files already exist (from a previous use of the command) they will be overwritten.
−m Convert the message logs. The log files created by Tivoli License Manager contain just the message numbers and the variables being used by the messages. This option expands the messages into XML format, adding the message text, explanation and user action for each message and then merges the converted XML files into a single HTML or text file.

−q query string
Optional: Defines a query in the form of a string typed directly on the command line. The query string must be enclosed in double quotes and any string values referenced in the query string must be enclosed in single quotes. For example:
−q "select time, messageid, logtext where severity = 'ERROR'"

For a complete description of facilities available for defining queries, see the Log XML viewer readme file.

−s { text | html }
Optional: Defines the format of the output file. The default is html.
locale  Optional: the locale into which the message logs should be converted. If no locale is specified, the default locale is US English.

The information to expand the messages is taken from the message bundle files which are available in the languages supported by the product. Thus, if you are using an Italian version of the product, on an Italian language operating system, the default action will convert the messages into Italian.
The following locales are supported:

dc  German
en_US  US English
es  Spanish
fr  French
it  Italian
ja  Japanese
ko  Korean
pt_BR  Portuguese (Brazilian)
zh_CN  Simplified Chinese
zh_TW  Traditional Chinese

The output message log files are created in a locale subdirectory (which is created if it does not already exist) of the directory where the message logs are stored.

Input file
Optional: You can specify one or more files to convert to HTML. The default is to convert all files. However, as the output is a single HTML file, including all message or trace files could result in a very large file.

Authorization
Windows  A user with administrator rights.
UNIX  root

Examples
1. To convert the trace logs and merge all trace information into a single HTML file, with a default set of columns, issue the following command:
   viewer

   The conversion of the traces is the default action.

2. To convert the trace-0.log file into an HTML file, issue the following command:
   viewer trace-0.log -q "select time,logtext,exception,thread
   where logattrs MATCH 'ERROR'"

3. To convert the message logs and merge all message information into a single HTML file in German, with the default set of columns, issue the following command:
   viewer -m de

4. To convert the message logs and create an HTML file, including the time logged, message ID, message text, explanation, and action for all error messages, issue the following command:
   viewer -m -q "select time,messageid,logtext,logattrs where severity = 'ERROR'"

See Also
pdtool
Appendix C. Tivoli Common directory

The Tivoli common directory is a common location in which problem determination information for Tivoli products is saved. This appendix describes the Tivoli common directory, in the following sections:

- "How to find the Tivoli common directory"
- "What is in the Tivoli common directory" on page 148

How to find the Tivoli common directory

The Tivoli common directory has a default location, which differs, according to whether the computer is on Windows, UNIX, or OS/400:

**Windows**

<ProgramFilesDir>\ibm\tivoli\common\n
Only users in groups "Administrators" and "tivoli" have write permission for the Tivoli common directory.

**Note:** <ProgramFilesDir> represents the value of the Windows registry entry:

HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\CurrentVersion\ProgramFilesDir

It is important to use this registry entry to get the value, because there may not be a directory named "Program Files" for locales other than English. For example, the German locale installs Windows files in a directory named "Programme". The value should be obtained from the registry rather than relying on the %ProgramFiles% environment variable, because the environment variable is not available on all Windows versions.

**UNIX**

One of the following:

/var/ibm/tivoli/common
/usr/ibm/tivoli/common
/opt/ibm/tivoli/common

The Tivoli Common Directory has "771" permission and is owned by group "tivoli".

**OS/400**

/QIBM/UserData/tivoli/common

In the event that you cannot find the Tivoli Common Directory in this location, it is possible that it had to be created in a different location for some reason. In all cases you can find the location of the Tivoli common directory by looking in the following file:

**Windows**

<ProgramFilesDir>\ibm\tivoli\common\cfg\log.properties

Only users in groups "Administrators" and "tivoli" have write permission for this file; all users have read permission.

**Note:** See above for an explanation of the <ProgramFilesDir>.
The Tivoli Common Directory contains sub-directories for every product installed on that computer. The sub-directory for Tivoli License Manager is called COD, which is the unique Tivoli product identifier (it also appears in message numbers, for example).

Within the COD sub-directory you will find the following structure:

```
\ffdc
   \admin
   \agent
   \catman
   \runtime
   \wasagent

\logs
   \admin
   \agent
   \catman
   \runtime
   \install
   \wasagent

\scripts
   \admin
   \agent
   \catman
   \runtime
```
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Glossary

A

account. See administration account.

administrator. A role that can be assigned to a user of the administration server Web UI. A user who is assigned this role is able to perform all Web UI tasks with the exception of Manage Organizations and Manage Access.

administration server. A component that performs the following tasks:
• Maintains a database of product, license, organization, application user, and infrastructure information
• Provides a Web interface where administrators can define and update the infrastructure and license rules for their organizations and produce historical reports

administration server database. A DB2 database associated with the administration server. This database stores the information about organizations, monitoring infrastructure, and license entitlement that are defined on the administration server as well as the historic inventory and software usage information that is used in the historical reports available on the administration server Web interface.

administration account. The record of a user of the Web UI that is stored in the database. An administration account defines the identification details of the user. Each account must have at least one profile, which defines the role and privacy policy of the user when working with a specific organization.

agent. A component that is deployed from a runtime server to an organization node that is to be monitored. An agent performs the following functions on the monitored node:
• Performs regular inventory scans and forwards the results to the runtime server
• Identifies the starting or stopping of monitored applications and communicates to the runtime server so that a license can be assigned or released

application user. A user who can start applications on monitored nodes. Details of application users are maintained to allow license pools to be restricted to specified users.

D

division. An administrative unit of Tivoli License Manager. Divisions are used to group agents so that they can be selected as a group, for example when scheduling inventory scans or specifying target distribution rules.

distribution quota. A part of the total license quantity that is distributed to specified targets or users.

E

event. An occurrence that causes a notification to be generated. Events can relate to license management, for example a usage threshold is reached, or to the functioning of Tivoli License Manager, for example, an agent is not responding.

H

hard stop. A property of a license pool that specifies whether the number of licenses available in the pool is an absolute maximum. If the property is set to Yes, it is an absolute maximum, which means that when all licenses are in use, no further instances of the application can be opened. If the property is set to No, it means that the number of licenses available can be exceeded.

high-water mark. The maximum concurrent license usage for a product since the high-water mark was last reset. Depending on the context, this can refer to usage within a specific license pool or to usage for all license pools of the same capacity type.

I

installed software scan. An operation performed by agents to discover all the software applications installed on monitored nodes. installed software scans can be scheduled to repeat at regular, defined intervals.

instrumented product. A product that relies on APIs, embedded in its code, to communicate license requests and license releases to the agent.

L

license administrator. A role that can be assigned to a user of the administration server Web UI. A license administrator is able to assign licenses to products, distribute licenses to targets and users, define the monitoring settings of products, and produce reports.

license and procurement manager. A role that can be assigned to a user of the administration server Web UI. A license and procurement manager is able to use the
tasks in the Manage Procurement task group, assign licenses to products, distribute licenses to targets and users, define the monitoring settings of products, and produce reports.

**M**

**procurement manager.** A role that can be assigned to a user of the administration server Web UI. A procurement manager is able to use the tasks in the Manage Procurement task group and produce reports.

**master catalog.** The central repository of product information about all software components and related files for products that can be monitored.

**metering.** A process by which software usage is measured and recorded. The data recorded (for example, number of sessions, number of concurrent sessions, duration of sessions, capacity used, node ID, user ID) may be used by licensees to assess license requirements, or by software vendors to verify compliance or to make billing calculations.

**module.** An entity, such as a file or a registry entry, that is defined in the catalog and linked to a product to enable the agent to identify the products that are installed or in use on monitored nodes.

**multi-instance.** A property of a license that determines whether multiple sessions of an application can be opened using a single license. Multi-instance licenses can apply to multiple sessions for the same user, for users in the same user group, or for sessions on the same node.

**N**

**node.** A computer in the network that can be monitored by Tivoli License Manager when an agent is deployed on it.

**notification.** An e-mail sent to a designated administrator in response to a license management or internal event.

**O**

**organization.** An organization whose license management is controlled by Tivoli License Manager. Each organization is the owner of a set of the Tivoli License Manager components, including runtime servers, divisions, agents, and application users.

**P**

**privacy policy.** A group of settings that is part of the profile of a user of the administration or runtime server Web UI. The privacy policy determines whether details of the computers and users to which software use and installed software information relate should be included in reports produced by the user.

**procurement manager.** A role that can be assigned to a user of the administration server Web UI. A procurement manager is able to use the tasks in the Manage Procurement task group and produce reports.

**product entitlement settings.** A definition that determines whether or not the use of a product should be monitored and the level of license compliance checking that should be applied.

**profile.** settings associated with an administration account which determine the role and privacy settings to be applied to a user of the Web UI of the administration or runtime server. Because the administration server can manage multiple organization, each account can have multiple profiles, each one defining settings related to a different organization.

**R**

**role.** A part of the profile of a user of the administration server Web UI. The role determines tasks that the user is able to perform on the interface. Available roles are Administrator, Procurement Manager, Software Resources Manager, License Administrator, System Resources Manager, and Procurement and Licensing Manager.

**runtime server.** A component that performs the following functions:

- Assigns and releases licenses according to the rules defined in the license pools when it receives a request from the agent
- Compiles inventory information about monitored nodes that it receives from its agents and forwards the information to the administration server
- Generates and sends notifications in response to events that occur on the server itself or any of its agents
- Provides Web interfaces for the deployment of agents and the production of real-time reports

**S**

**signature.** A file, registry entry, or other identifier that enables Tivoli License Manager to identify products that are installed or in use on monitored nodes.

**stale license.** A license that is not in use, but was in use when the using workstation went down or the network failed. Such licenses are cleaned up when a license is newly requested and none is available.
software recognition signature. Module defined in the catalog and linked to a product that enables the agent to identify a product that is installed on a monitored node.

software resources manager. A role that can be assigned to a user of the administration server Web UI. A software resources manager is able to produce reports.

system resources manager. A role that can be assigned to a user of the administration server Web UI. A system resources manager is create and manage the monitoring infrastructure of servers, agents, divisions, nodes, and application users, using tasks in the Manage Resources and Manage Components task groups.

target. Any part of a license management infrastructure that can have exclusive use of a license pool. A target can be a division, a node, or an agent, depending on how the target distribution rules for the license pool are defined.

target distribution parameters. Rules associated with a license that limit the availability of the license pool to selected targets. The targets can be divisions, nodes, or agents depending on the target type property of the license pool.

target type. The property of a license pool that specifies where the license pool is available in the organization’s environment. The target type for a license pool is set to one of the following values:

- Enterprise
- Division
- Node
- Agent

An enterprise license pool is available throughout the organization. For division, node, and agent license pools, the administrator defines the target distribution parameters to determine the availability of the license pool in those locations.

threshold. A percentage of the licenses available in a license pool; if more than this percentage of licenses for a product is in use, notifications about the level of use are generated.

unit type. The property of a license pool that specifies how to determine the number of required licenses for an application. Depending on the unit type selected for the pool, the number of licenses required can be based on the number of users requesting a license or can depend on the size of the memory, number of processors, or number of hard disks on the node where the application is started.

software recognition signature • XSLM ID

unknown module. A module that is detected by the software use monitoring function of the agent for which no corresponding entry was found in the catalog.

user. See application user.

use monitoring signature. Module defined in the catalog and linked to a product that enables the agent to identify a product that is in use on a monitored node.

user distribution parameters. Rules associated with a license that limit the availability of the license pool to selected application users. The default setting is to allow all users of applications to access the license pool.

X

XSLM ID. An identifier that an IBM instrumented product passes to an API when requesting, checking, or releasing licenses. An XSLM ID uniquely identifies a product and is made up of a publisher ID, product ID, version ID, and feature ID, each of which is a unique hexadecimal string. XSLM IDs are used only for use monitoring.
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