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Troubleshooting Licenses

This section contains information intended to help you troubleshoot common problems, decipher licensing errors, and debug licensing operations:

• Licensing Diagnose Mode

• License Server Log

• Common Licensing Problems and Solutions

Licensing Diagnose Mode

This section provides a description of the diagnose mode available for License Server and procedures specific to your operating system.

Diagnose mode is not often used, because it is very verbose and creates large log files. However if you are debugging licensing behavior or looking for specific information about when and by whom licenses are checked out, then you can use diagnose mode.

The information generated by running the license server in diagnose mode is recorded to a file called `license_server_log`, which is located in

Windows: `<primary_hard_drive>:\OPNET_license`

Linux: `/opt/OPNET_license/`

This is the same directory where the license_file is located.

Note—The diagnose mode of the License Server writes verbose information to this file that will eventually create a large license_server_log. This file must be deleted occasionally.

To use the diagnose mode, follow the appropriate procedure:

• Procedure 3-58—Describes how to use diagnose mode on an ad hoc basis on Windows and Linux platforms.

• Procedure 3-59—Windows: Describes how to configure diagnose mode to start automatically when the computer is restarted.

• Procedure 3-60—Linux: Describes how to configure diagnose mode to start automatically when the computer is restarted.

Procedure 3-58   Starting the License Server in Diagnose Mode (Ad Hoc)

1 Log in to the machine where the License Server is running.

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2 Shut down the License Server. See Stopping the License Server from the License Manager GUI or Managing Licenses from the Command Line for more information.

    2.1 Start the License Manager.

    2.2 Locate and select the License Server of interest from the left side of the License Manager window.

    2.3 Click the Stop button on the right side of the License Manager window.

       ➥ After a moment, the license server stops.

3 Start the License Server in diagnose mode:

Windows

    3.1 Select OPNET License Server from the Services control panel:

    Windows 2000, XP: Start > Programs > Administrative Tools > Services

    Windows NT: Start > Settings > Control Panel > Services

    • Right-click on the OPNET License Server service and choose Properties.

    • Add `-diagnose` to the Start Parameters.

    • Click on the Start button to start the License Server in diagnose mode.

Linux

    3.1 Open a c-shell.

    Type the command `op_license_server -diagnose &`

Note—Make sure the path to OPNET analysis software is in your shell PATH.

4 Inspect the license_server_log for the information you desire.

5 To disable diagnose mode:

    5.1 Stop the License Server.

    5.2 Select the License Server of interest (in red).

    5.3 Click "Start" to start the License Server in the normal mode.

End of Procedure 3-58

Procedure 3-59   Starting in Diagnose Mode for Windows (Recurrent)

1 Log in to the machine where the License Server is running.

2 Shut down the License Server. See Stopping the License Server from the License Manager GUI or Managing Licenses from the Command Line for more information.

    2.1 Start the License Manager.

    2.2 Locate and select the License Server (indicated by the green dot) of interest from the left side of the License Manager window.

    2.3 Click the Stop License Server button on the right side of the License Manager window.

➥ After a moment, the license server stops.

Note—You may need administrator privileges to perform these actions.

3 Modify the system registry.

Note—Since you are editing your system's registry, you should make a backup copy in case you need to recover.

    3.1 Select Start > Run > "regedit".

    3.2 Navigate to the following key: `\\My Computer\HKEY_LOCAL_MACHINE\ SYSTEM\CurrentControlSet\Services\OPNET License Server.`

    3.3 Double-click on "ImagePath", in the right pane.

➥ The ImagePath value appears in quotes.

    3.4 Add the argument `-diagnose` to the end of the value (outside the quotation marks).

    3.5 Exit the registry.

4 Start the License Server. See Starting the License Server from the License Manager GUI or Starting a License Server from the Command Line.

    4.1 Navigate to the Services panel.

Windows 2000, XP: Start > Programs > Administrative Tools > Services > OPNET License Server.

Windows NT: Start > Settings > Control Panel > Services > OPNET License Server.

    4.2 Right-click on the OPNET License Server service, and select Start.

5 Close the Services panel.

End of Procedure 3-59

Procedure 3-60   Starting in Diagnose Mode for Linux (Recurrent)

1 Modify the auto-boot scripts as described in Starting the License Server from the License Manager GUI or Starting a License Server from the Command Line.

2 Append the "-diagnose" flag to the command line as shown below:

```
<bindir>/op_license_server -license_port <port_name> -diagnose
```

Note—Fill in your own installation directory for <bindir>; substitute the port (which defaults to "port_a") for <port_name> in the example.

End of Procedure 3-60

License Server Log

The license server application (`op_license_server`) writes messages and errors to a log file. The log file, named `license_server_log` is located in the following directory:

Windows: `<primary_hard_drive>:\OPNET_License\`

Linux: `/opt/OPNET_license/`

If the log file grows too large, you can remove it even when the license server is running.

The type and quantity of information written to the log file varies depending on whether the license server is operating in normal or diagnose mode.

In normal mode, the following events are logged:

• Start up and termination of the License Manager

• Arrival of an unexpected or invalid packet from a requesting application

• Inability to read from or write to the license database

• Use of an invalid license file

• Expiration of a license

In diagnose mode, the license server logs information on the following additional events:

• Requesting client is not on the same IP network as the license server

• License freed due to time-out

• License issued or refused

• Arrival of a continuation request from an application

• Arrival of a quit request from an application

• Arrival of a request to use a revoked or reissued license

Common Licensing Problems and Solutions

> **Note**—Some solutions contained in this section assume that you have access to the License Manager GUI. If you are using VNE Server or AppInternals Xpert, you may have access to the License Manager GUI through another OPNET application. The GUI is the preferred method for managing and troubleshooting licenses, where available.

Cannot Find License Server You Want to Use

• If you cannot see the license server you want in the license treeview, you can add it to your `license_managed_servers` preference. After editing the preference, click on File > Refresh Server Information in the License Manager.

• If the above method is problematic, you can also set the default license server by directly changing the `license_server` preference to the hostname or IP address of the computer that has the licenses you want to use.

• For non-enterprise licensing, the license server you choose must be in the same classful IP network as the computer on which you are running OPNET analysis software.

License Not Obtained

If you see a dialog box telling you that a license was not obtained, consider the following possible solutions for each type of problem. The type of problem is described in the "What Happened?" section of the dialog box.

• There was no response from the license server

— Are `license_server` and `license_port` set to the correct value, and are they spelled correctly? Use the "hostname" command to determine the exact spelling and capitalization.

— Is the specified license server running?

— Can the client ping the server? Can the server ping the client? This applies even if the server is the client. TCP/IP must be installed and running, even in standalone mode.

— Is the license server an older release of OPNET analysis software? Run the latest release of the License Server.

— Rarely this may be accompanied by errors saying the op_models directory does not exist. It could be the case that changes to the preferences cannot be stored because OPNET analysis software cannot write to the home directory. This can be due to permissions or because the directory does not exist.

- There are no licenses in the server's license file.

  — Set the `license_server` preference to a host with available licenses.

  — Use the Add Licenses button in the License Manager to add licenses to the server's license file.

- The license server did not grant your request for licenses.

  — You may be running a License Server that is too old for your licenses. In that case upgrade to the latest available License Server.

  — Set the `license_server` preference to a computer with available licenses.

  — Use the Add Licenses button in the License Manager to add licenses to the server's license file.

  — Deselect any product modules that are not in use.

- The only available license has expired or The only available license's maintenance has expired.

  — Perform the Change Maintenance Expiration operation if the current authorized maintenance date is not reflected in the license file.

  — Perform the Change License Expiration operation if the current authorized expiration date is not reflected in the license file.

  — Be sure to use Select Product Modules to deselect product modules that are unavailable.

  — In rare instances you may need to perform the Update System Date operation, if License Server date is too far in the future.

- The requested license was found in the license server's license file but it is in use.

  — The most common cause of this message is that the license is in use by another user.

  — If OPNET analysis software exited ungracefully, select the license in the License Manager, then click on the Revoke License button to revoke the permits that are erroneously listed as "in use". (OPNET analysis software will automatically recover from this situation after no more than one hour without intervention).

Note—VNE Server licenses are not recovered in the one hour time period. A license may not be automatically revoked for several days.

- The license server is a "standalone" license server. A standalone license server cannot issue licenses to other applications.

  — An obvious remedy is to make sure you are selecting a License Server that is not in standalone mode.

  — If you are certain you have selected the correct default server, switch the License Server to server mode. Stop the license server and (re)install the latest software patch level (on the server machine). During the installation, choose Floating: Serve licenses from this computer.

- Your machine's IP network address is different from the IP network address of the license server.

  — You must use a License Server on your local IP network. Check to be sure you are using a License Server on your local IP network.

  — This error can also occur if the computer running the License Server received a new IP address after the License Server was started. The solution is to restart the License Server by stopping it, then starting it again in the License Manager.

- The license server cannot write to its license file. A license server cannot give licenses unless it can write to its license file.

  — Make sure the owner of the License Server process/daemon has permissions to write to the license file.

- The license server cannot lock its license file. A license server cannot give licenses unless it can lock its license file.

  — Make sure the owner of the License Server process/daemon has permissions to create/delete files and directories in the `OPNET_license` directory.

  — Make sure enough disk space is available to create a small file or directory in the `OPNET_license` directory.

Note—A standalone License Server has the same permissions as the user logged in, while a License Server running in server mode typically has root or Administrator privileges.

- The license server's license file is invalid. A license server cannot give licenses from an invalid file.

  — Make sure you are running the latest version of License Server. If you are not running the latest version of License Server, you may encounter problems when adding, deregistering, or obtaining licenses.

  — If you receive this error, refer to Validate License File (Button).

- A license server's license file does not exist. A license server cannot give out licenses without a license file.

  — The license file may have been deleted, or the license server does not have permissions to create a new license file upon startup. If the license server should have a license file, check to see if it was deleted.

  — Otherwise, select a different license server.

  — If necessary, refer to Create License File (Button).

- Your username/hostname is not authorized to obtain licenses from the license server.

  — The user account or computer from which you are trying to access the license server is not authorized in the `user_auth` file. Check the `user_auth` file on the computer where the license server is running.

  — For more information, refer to Restricting License Users.

  — Try to login from an authorized account or computer.

No licenses in file   If there are no licenses in your license file, you may need to sign your Electronic Licensing Agreement (ELA). To do this

1) Point your browser to the OPNET Support Center http://www.opnet.com/support.

2) Click on the License Registration link. When prompted, log in with your OPNET username and password. The License Registration page appears.

3) Click on the View Electronic License Agreements link. The OPNET License Agreement Review page appears in a separate browser window.

4) Find the agreement that you are interested in signing. On the left side of this agreement, click on the Sign link.

5) Read the license agreement, then click on the Continue button at the bottom of the page.

6) The next page asks if you are authorized by your organization to sign the license agreement. Read the page, and if you agree, click the I Agree button.

7) The next page is the actual acceptance of the legal agreement. Read the page, and if you agree, click on the I Agree button.

Note—Each set of licenses has two agreements: Usage and Maintenance. You need to sign both agreements before your licenses are available for use.

Error: A "SERVERS" license is required to use the "server_definer" process model

The SERVERS license, also called Server Specialized Model (SSM) is used for studying advanced server characteristics, such as the effect of disk access time, CPU usage, and other detailed aspects of server usage.

- If you intended to use this feature, but don't have access to a server license, contact info@opnet.com or your OPNET sales account manager.

- If you did NOT intend to use this feature, you can fix the problem by

  — making sure that the "Server: Modeling Method" on all nodes is set to "Simple CPU", and

  — removing any "Server Definition" utility nodes from the network

You may see a similar error for other specialized models, including those in the following table:

Table 3-10   Specialized Models

Model	License
Server	SERVERS
GPRS	GPRS
PNNI	PNNI
UMTS	UMTS
IPv6	IPV6
MPLS	MPLS
Mainframe	MFRAME

Error: License Server's IP Address Does Not Match the IP Address of Co-Located Workstation

When you install a license server on your computer, the license is manipulated by a system service: `op_license_server`. If your computer's IP address changes (due to a dial-up or VPN connection, for example) between the time the License Server started and the time OPNET analysis software is launched, the License Server process does not pick up the change. Restarting the license server will refresh its awareness of its IP address.

1) - Run the License Manager

2) - Choose the local license server process (green dot) from the server treeview

3) - Click the Stop Server button. After a moment, the license server stops.

4) - Click the Start Server button. After a moment, the license server starts.

Error: Bad checksum [error -16111]

The "bad checksum" error during license registration usually indicates one of two things:

• The Transaction Code was mistyped. Make sure that the complete Transaction Code was entered and that it doesn't have extra spaces or characters.

• The hostname was mistyped. Make sure you used the correct capitalization--this field is case-sensitive. Also check for extra spaces or characters.

Entries in License Server Authorization Files Do Not Work

• Make sure your license authorization files contain the correct format. A '+' may replace either or both fields to indicate that you want to allow all.

```
hostname username
```

• After making any necessary changes to the authorization files, use the License Manager menu item Tools > Refresh Server Authorization Files, so the License Server uses the latest changes.

When Entering Approval Code on the Web, Receive Error: "Multiple Decryption Choices"

This message is most common with older releases of OPNET analysis software. Older versions of the licensing system generated Transaction Codes that were less specific than they are now. Therefore, many times a Transaction Code made from either version could be confused with transaction codes from the other. That is what is meant by "Multiple Decryption Choices." To avoid this problem

• If you are using the Express method, simply try the operation again.

• If you are using the Browser method to perform a license operation, discard the Transaction Code that caused this error message, and try again with a new Transaction Code.

Lost Confirmation Code during Registration

If you lost your Confirmation Code during a registration, you may see the error, "This license has a pending registration". Confirmation codes are stored in the session log of the machine running the License Server.

You can view the session log by choosing Help > Session Log > Open.

Note—Confirmation codes are not necessary with the Express method of license registration.

Potential Server or
DNS Configuration
Error

If you receive an error similar to this, there is usually not a true problem:

```
<<< Diagnostic Error >>>
* Package: Vos (Virtual Operating System)
* Function: Vos_Sec_Fl_Dmn_Versioned_Ping
* Error: Potential server or DNS configuration error:
License server (X) returned (Y) as its host name.
```

This means that your preference settings for the License Server differ from what the server reports. This can happen when the server has multiple hostnames or interfaces.

To prevent the message

• Refer to the server in your preferences by the correct hostname or IP address.

• Suppress this and other diagnostic error messages by setting the `diag_enable` preference to FALSE.