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Mercury Functional Testing Concurrent License Server™
Installation Guide

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Version 8.0

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MFTCLSIG8.0/07

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Before You Install

Welcome to the Mercury Functional Testing Concurrent License Server for QuickTest Professional, QuickTest Professional add-ins, WinRunner, and WinRunner add-ins.

Before you install the concurrent license server, you need the following minimum system requirements:

Computer/Processor   An IBM-PC or compatible with a Pentium 166 MHz or higher microprocessor or an AMD K6-2 processor or higher.

Operating System   Windows 98/ME/NT/2000/XP/2003.

Memory   A minimum of 32 MB of RAM.

Free Hard Disk Space   10 MB of free disk space.

Accessories   2x CD ROM drive.

Protocols   TCP/IP.

Setting Up the Concurrent License Server

You can work with QuickTest and WinRunner with two types of licenses: seat and concurrent. The Mercury Functional Testing Concurrent License Server supports concurrent licensing on QuickTest version 6.0 and later, QuickTest add-ins version 6.5 and later, WinRunner version 7.01 and later, and WinRunner add-ins version 7.6 and later.

This guide describes everything you need to know about installing the Mercury Functional Testing Concurrent License Server and a concurrent license code. For information on installing a seat license, refer to the *QuickTest Professional Installation Guide* or the *WinRunner Installation Guide*. If you are not sure which type of license to install, refer to the relevant product's installation guide or contact your system administrator or local Mercury representative.

Note that you must also install the QuickTest or WinRunner client, using the concurrent license option, on each computer on which you want to run QuickTest or WinRunner. When you install a concurrent license, you can install QuickTest or WinRunner on as many computers as you want. However, the Mercury Functional Testing Concurrent License Server regulates the number of copies of QuickTest and/or WinRunner that are allowed to run concurrently based on your concurrent license code. You can increase the number of copies of QuickTest or WinRunner that you can run at the same time by purchasing additional QuickTest or WinRunner licenses from Mercury. For information on installing the QuickTest and WinRunner clients, refer to the *QuickTest Professional Installation Guide* or the *WinRunner Installation Guide*.

This chapter describes:

➤ Setting up QuickTest or WinRunner with a Concurrent License

➤ Upgrading the Concurrent License Server

➤ Installing a Concurrent License Server

➤ Requesting a Concurrent License Code

➤ Activating a Concurrent License Code

Setting up QuickTest or WinRunner with a Concurrent License

Computers running QuickTest or WinRunner using a concurrent license must always be able to access the concurrent license server. This section summarizes the steps for setting up QuickTest or WinRunner with a concurrent license.

Notes: The Mercury Functional Testing Concurrent License Server supports concurrent licensing on QuickTest version 6.0 or later, and on WinRunner version 7.01 or later. Note that WinRunner 7.0 (or earlier) is supported only by the WinRunner Floating License Server. Therefore, if you want to work with QuickTest or WinRunner version 7.01 or later, and WinRunner 7.0 or earlier, each license server must be installed on a different computer.

You can use the *commuter licensing feature* for computers that temporarily cannot access the concurrent license server (for example, users taking their laptop computers on business trips). The commuter licensing feature is available for Mercury Functional Testing Concurrent License Server version 7.6 and later. If you have a license code for an earlier version of the concurrent license server, you need to request a new Mercury Functional Testing Concurrent License Server license code from Mercury Customer Support. For more information, refer to the *QuickTest Professional Installation Guide* or the *WinRunner Installation Guide*.

To set up QuickTest or WinRunner with a concurrent license:

1 Install the Mercury Functional Testing Concurrent License Server on a network computer. For more information, see "Installing a Concurrent License Server" on page 7.

2 Request your concurrent license code. For more information, see "Requesting a Concurrent License Code" on page 12.

3 Once you receive the concurrent license code from Mercury, enter the code to activate your license on the license server. For more information, see "Activating a Concurrent License Code" on page 14.

4 Run the QuickTest or WinRunner setup program on each computer from which you want to run QuickTest or WinRunner. Select **Concurrent License** in the License Type screen. For more information, refer to the *QuickTest Professional Installation Guide* or the *WinRunner Installation Guide*.

5 Begin using QuickTest or WinRunner. When QuickTest or WinRunner opens, it automatically finds the license server and connects to it.

Note: If your QuickTest or WinRunner client computer cannot find the license server and connect to it, you may need to set the LSHOST or LSFORCEHOST variable. For more information, see "Setting the LSHOST or LSFORCEHOST Variable" on page 34.

Upgrading the Concurrent License Server

If a previous version of the concurrent license server is currently installed on your network computer, you can upgrade to Mercury Functional Testing Concurrent License Server 8.0.

To upgrade the concurrent license server:

1 Save the **lservrc** file to a backup location. The **lservrc** file is located in the folder in which the Sentinel LM server is currently installed, for example, C:\Program Files\Rainbow Technologies\SentinelLM 7.2.0 Server\English\ lservrc. For more information, see step 5 on page 11.

2 Uninstall the Mercury Functional Testing Concurrent License Server from the network computer. For more information, see "Uninstalling a Concurrent License Server" on page 37.

3 Install the Mercury Functional Testing Concurrent License Server on the network computer. For more information, see "Installing a Concurrent License Server" on page 7.

4 Copy the **lservrc** file to the folder in which the new version of the Sentinel LM server is installed. By default, this is C:\Program Files\Rainbow Technologies\SentinelLM 7.3.0 Server\English.

5 Restart the Mercury Functional Testing Concurrent License Server. For more information, see "Stopping and Restarting the Concurrent License Server" on page 19.

Installing a Concurrent License Server

This section describes how to install a concurrent license server on a computer.

Note: If a previous version of the concurrent license server is already installed on the computer and you want to upgrade to the latest version, you must perform specific steps. For more information, see "Upgrading the Concurrent License Server" on page 6.

It is recommended to install the license server on a computer that is running Windows NT 4.0, 2000, XP, or 2003. You must install the license server on a computer that has TCP/IP installed.

Note: To ascertain that TCP/IP is installed and functioning properly, you can check that another computer on the network can identify the computer where you plan to install the license server. On another computer, click **Start** > **Run**. In the **Open** box, type ping <name of the computer where the license server will be installed>. Click **OK**. If the first computer can identify the second computer on the network, an MS-DOS window opens and four successful reply messages open. If the first computer cannot identify the second computer on the network, an MS-DOS window opens, but there are no successful reply messages.

After you have installed the concurrent license server, it must be running whenever you use QuickTest or WinRunner.

To install the concurrent license server:

1 Insert the Mercury Functional Testing Concurrent License Server CD-ROM into the drive from which you want to install. If the CD drive is located on your local computer, the Mercury Functional Testing Concurrent License Server installation window opens. If you are installing from a network drive, connect to it and run **autorun.exe**.
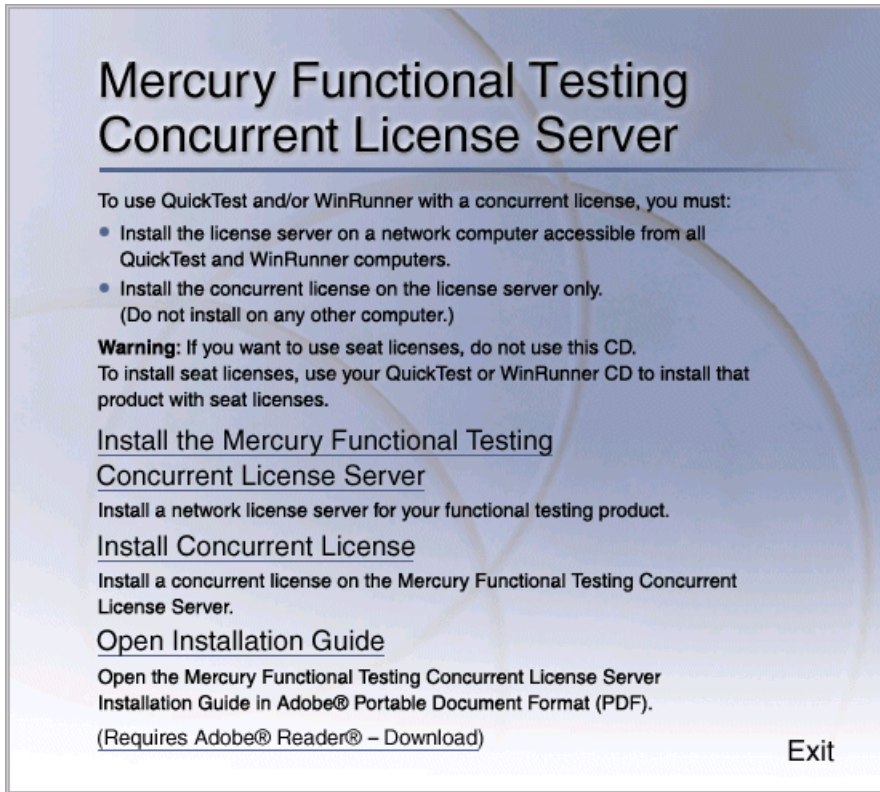
Note: You must be logged on with Administrator privileges (if applicable on your operating system) to install the concurrent license server.

2 Click **Install the Mercury Functional Testing Concurrent License Server**.

The SentinelLM Server setup program starts and the SentinelLM Welcome screen opens.
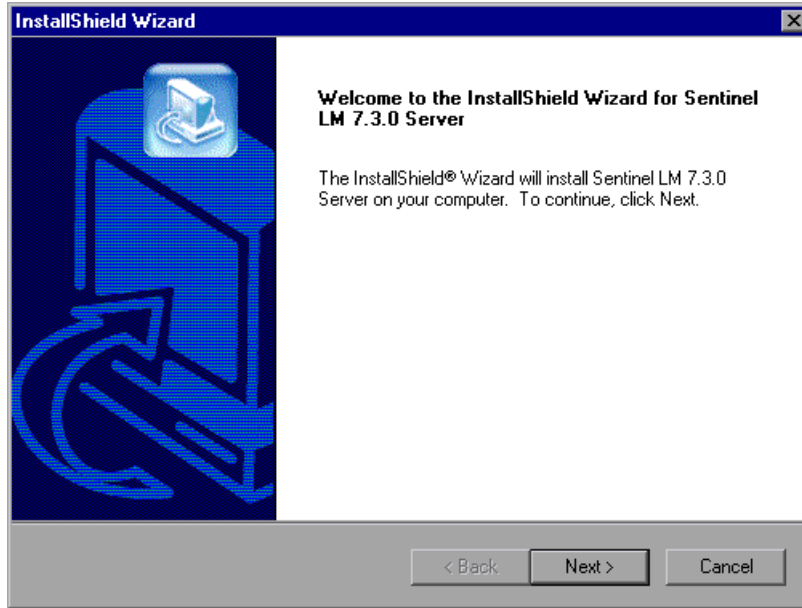
3 Click **Next**. The SentinelLM License Agreement screen opens.
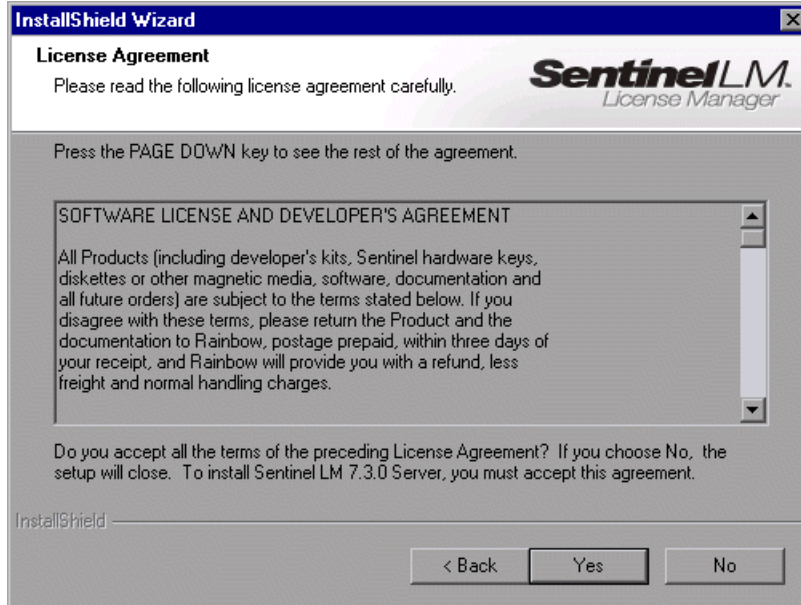
4 Click **Yes** to accept the terms of the license agreement and install the Mercury Functional Testing Concurrent License Server. If you click **No**, the setup program will close.

5 Specify the destination folder for the Mercury Functional Testing
Concurrent License Server. To choose a different destination, click **Browse**.
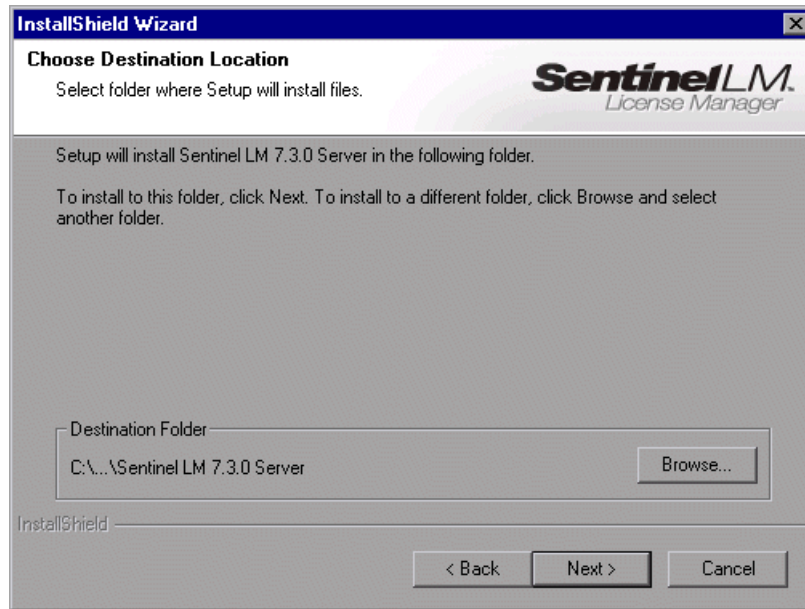
Click **Next** to proceed.

The installation process begins. To pause or quit the installation process,
click **Cancel**.

6 Click **Finish** to complete the installation process.

Once you have installed the concurrent license server, you must request and
activate the concurrent license code before you can use QuickTest or
WinRunner. Note that there is no concurrent demo license available.

Requesting a Concurrent License Code

Once the concurrent license server is installed, you must run the Concurrent License Server license installation program to request your license code from Mercury. You must run the Concurrent License Server license installation program on the computer on which you installed the concurrent license server.

To request a concurrent license code:

1 Insert the Mercury Functional Testing Concurrent License Server CD-ROM into the drive from which you want to install. If the CD-ROM drive is located on your local computer, the Mercury Functional Testing - License Server Installation window opens.

If you are installing from a network drive, connect to it and run **autorun.exe**.
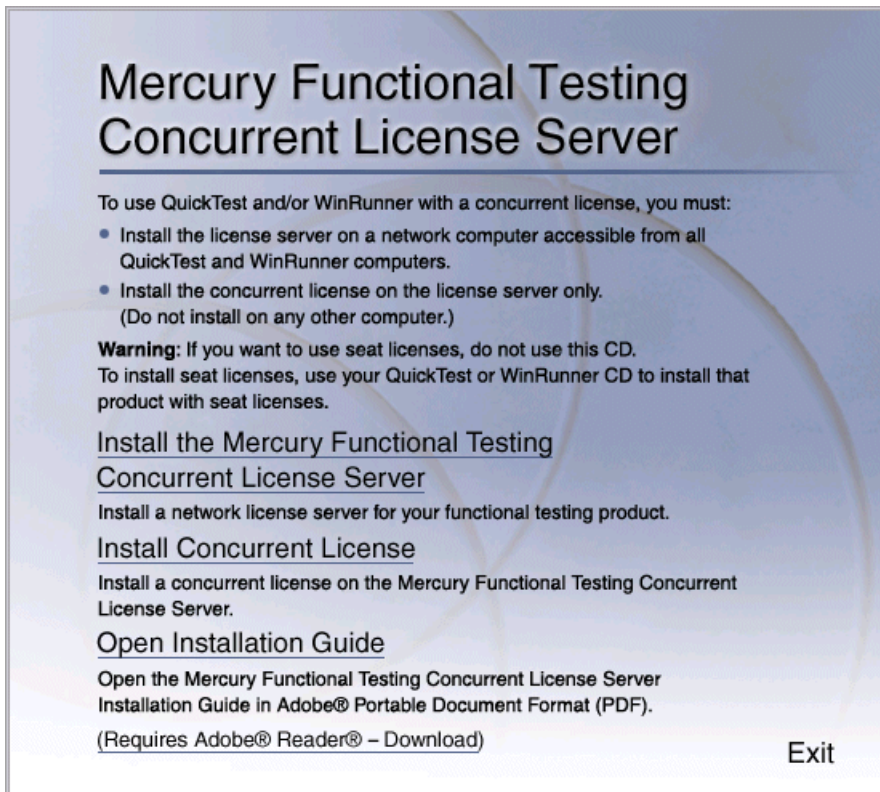
2 Click **Install Concurrent License**.

The Concurrent License Server license installation program starts and the Welcome screen opens, displaying the locking code for your computer and the license type.
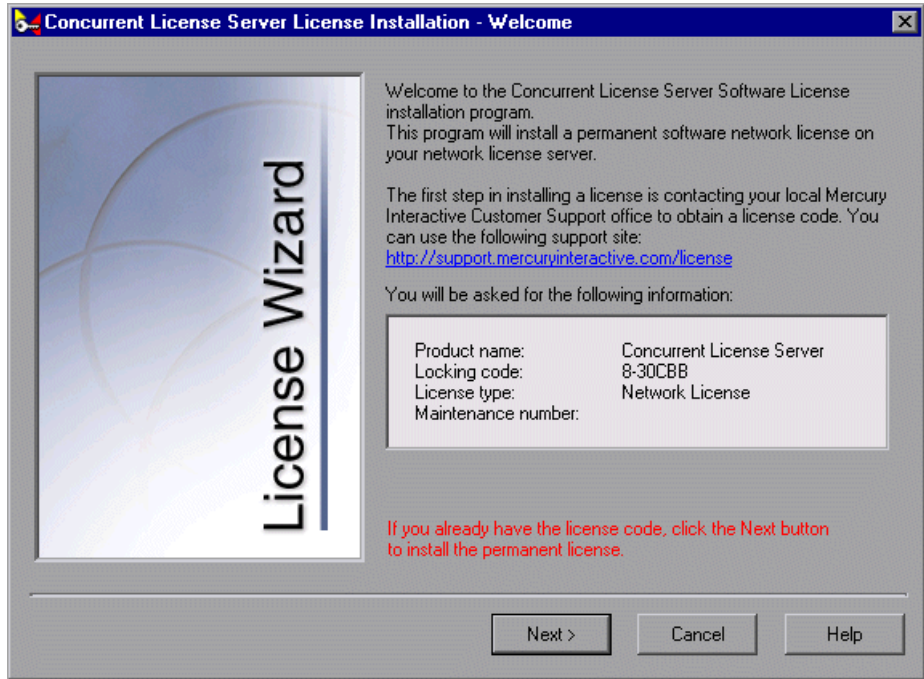
3 Use the Web site link in the Welcome screen to send the locking code, license type, and maintenance number to Mercury Customer Support. Note that you can copy and paste the information from the Welcome screen into the license request form on the Mercury Interactive Customer Support Web site or into an e-mail message.

4 If you already have your license code, click **Next** to begin the license activation process, and proceed to step 3 on page 15 in the "Activating a Concurrent License Code" section. Otherwise, click **Cancel** and wait for your license code to arrive. When it arrives, follow the instructions as described in "Activating a Concurrent License Code" on page 14.

Activating a Concurrent License Code

Once you receive your license code from Mercury, you must run the Concurrent License Server license installation program again to activate the code. The concurrent license code must be activated on the computer on which you installed the concurrent license server.

To activate your concurrent license code:

1 Insert the Mercury Functional Testing Concurrent License Server CD-ROM into the drive from which you want to install. If the CD-ROM drive is located on your local computer, the Mercury Functional Testing - License Server Installation window opens.

If you are installing from a network drive, connect to it and run **autorun.exe**.
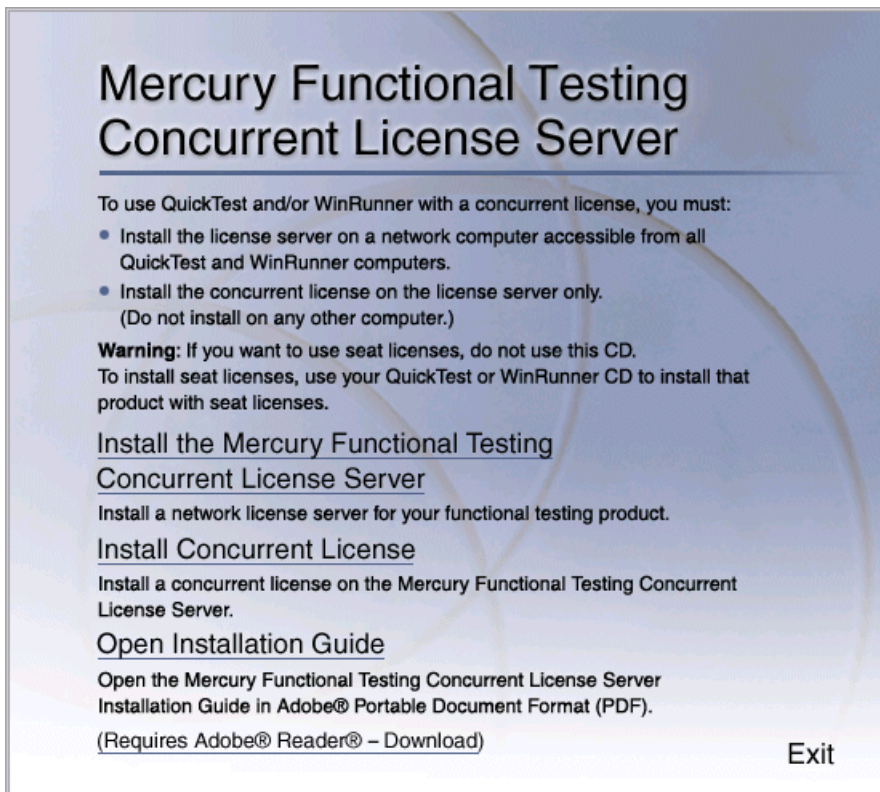
2 Click **Install Concurrent License**.

The Concurrent License Server license installation program starts and the Welcome screen opens, displaying the locking code for your computer and the license type.
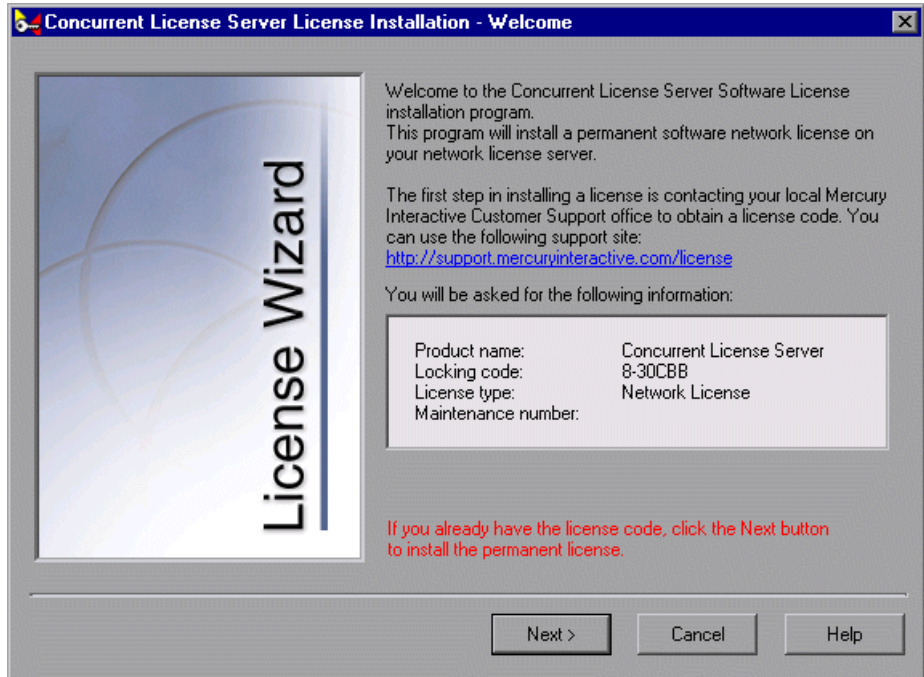
Click **Next** to proceed.

3 Read the message about exiting all Windows programs before continuing with the installation. Exit all Windows programs and click **Next** to proceed.

The User Information screen opens.

4 Enter your first name, last name, and company name in the appropriate boxes. In the **Maintenance Number** box, enter the maintenance number that you received from Mercury. This number can be found in the Maintenance Pack Number envelope or on the bill of lading. The maintenance number, which identifies the customer, determines the license type.

Click **Next** to proceed.

5 The Details screen opens. Verify that the information in the Details screen is correct and insert the license code provided by Mercury Interactive Customer Support into the **License Code** box.
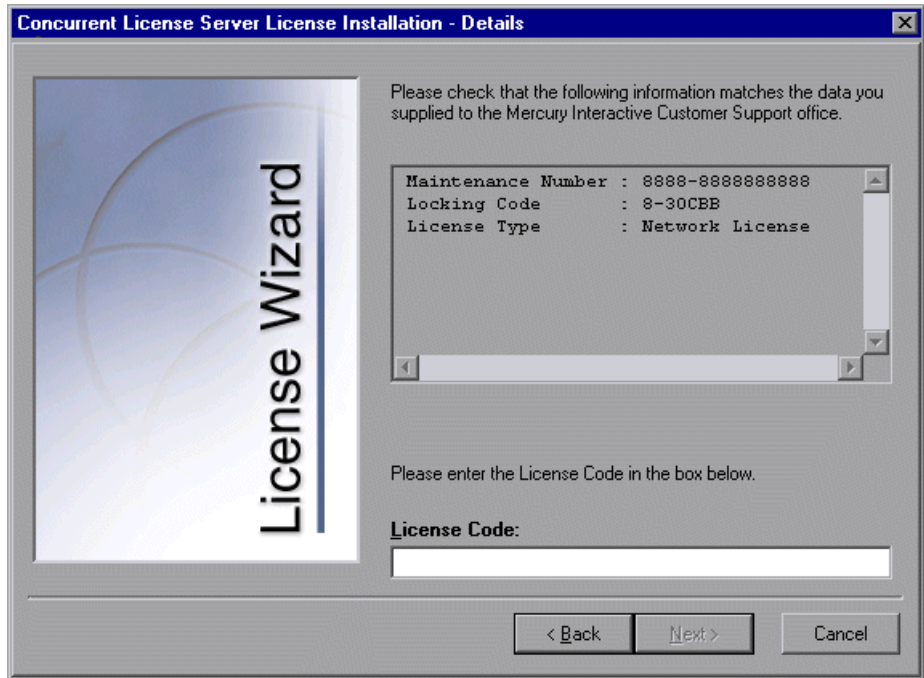
Note that the license code is valid only for the computer with the locking code that you entered in the license request form. Click **Next** to proceed.

6 If you entered a valid license code, the Status screen confirms that your license code was successfully installed. Click **Next** to proceed.

7 The Finished screen opens and displays customer support information. Click **Finish** to complete the license activation process.

Notes:

For more information on licensing and the Mercury Functional Testing Concurrent License Server, search the Customer Support Knowledge Base located in the Mercury Customer Support Web site.

If you are using the Mercury Functional Testing Concurrent License Server with QuickTest Professional, refer to Knowledge Base Problem ID: 18251, *Top Astra QuickTest/QuickTest Professional Licensing Articles*.

If you are using the Mercury Functional Testing Concurrent License Server with WinRunner, refer to Knowledge Base Problem ID: 11625, *Top WinRunner Licensing Articles*.

Concurrent License Server Tips and Tricks

This chapter provides hints, tips, and troubleshooting information for your concurrent license server. It also describes how to stop and restart the concurrent license server.

This chapter describes:

➤ General Tips

➤ Stopping and Restarting the Concurrent License Server

➤ Locking Codes

➤ Known Problems and Workarounds

General Tips

When the client computers running QuickTest and/or WinRunner are on multiple domains, you should install a license server on each domain.

It is recommended to install the license server on a computer running Windows NT 4.0, 2000, XP, or 2003. The computer should also have a fixed IP address and must have TCP/IP installed.

Stopping and Restarting the Concurrent License Server

If you want to reset the license server, it is recommended to restart the computer. You can also turn off the license server and then turn it on again without restarting the computer by following the instructions below.

Note: The concurrent license server starts automatically at startup on the host computer.

To stop and restart the license server if the host computer is running Windows 2000, XP, or 2003:

1 Click **Start** > **Settings** > **Control Panel**.

2 Double-click **Administrative Tools** and then double-click **Services**. The **Services** dialog box opens.

3 In the **Services (Local)** list, select **SentinelLM** and click **Stop Service**.

4 To restart the license server, highlight **SentinelLM** and click **Start Service**.

Tip: You can highlight **SentinelLM** and click **Restart Service** to stop and then restart the license server.

You can also shut down the license server using the LSRVDOWN utility. For more information, see page 27.

To stop and restart the license server if the host computer is running Windows NT 4.0:

1 Click **Start** > **Settings** > **Control Panel**.

2 Double-click **Services**. The **Services** dialog box opens.

3 In the **Service** list, select **SentinelLM** and click **Stop**.

4 To restart the license server, highlight **SentinelLM** and click **Start**.

To stop and restart the license server if the host computer is running Windows 98 or ME:

1 In the task bar, right-click the SentinelLM icon and choose **Close** from the pop-up menu. Alternatively, in the SentinelLM window, choose **File** > **Exit**.

2 To restart the concurrent license server, reboot your computer.

Locking Codes

A locking code is a number generated by a license server or a seat license host. Every computer has its own locking code. The locking code, together with the maintenance number, are used to generate the license code for the server computer. A license code that is generated based on the locking code from one computer cannot be used on another computer.

Known Problems and Workarounds

The following table provides the known problems and workarounds:

Problem	Workaround
The concurrent license server is installed on a different domain/subnet than the QuickTest or WinRunner clients.	Open UDP port 5093 between domains. Set the LSHOST or LSFORCEHOST parameters on the QuickTest or WinRunner client computers. For more information, see "Setting the LSHOST or LSFORCEHOST Variable" on page 34.
	To check the connection, use ping -a from the Windows command line.
	If this is successful, it should display: Reply from <server i.p. address> : <byte size> < time >.
You want to install concurrent license servers on Novell or Unix computers.	The concurrent license server software does not support Novell or Unix. Generate a seat license code for each QuickTest or WinRunner client computer. Alternatively, use a Windows platform network computer as your concurrent license server.

Problem	Workaround
Although you have a legal license code installed on your concurrent license server, you cannot start QuickTest or WinRunner.	If you install QuickTest or WinRunner using the **setup.exe** file instead of from the autorun screen, it automatically installs QuickTest or WinRunner with the seat license option. In the message box that opens when you try to open QuickTest or WinRunner, click **Install License**. This opens the License Installation utility, which enables you to change your license type to the concurrent license option.
You have changed the date on the computer where the concurrent license server is installed, for example, due to date operations testing. This locked the concurrent license server license code.	Restore the computer's clock to the original date and contact Mercury Interactive Customer Support for further assistance.

For more information about these and other issues, refer to the QuickTest and/or WinRunner Knowledge Base in the Mercury Customer Support Web site at http://www.mercury.com.

License Server Error Codes

This chapter provides information regarding concurrent license server error messages that may open.

This chapter describes:

➤ Error 5: Cannot talk to the license manager. "LocalHost" server not running

➤ Error 19: Cannot install a license code

Error 5: Cannot talk to the license manager. "LocalHost" server not running

The concurrent license server has stopped.

➤ For Windows NT, choose **Start** > **Settings** > **Control Panel** > **Services**. Locate the SentinelLM service and click **Start**.

➤ For Windows 2000, XP, and 2003, choose **Start** > **Programs** > **Administrative Tools** > **Services**. Locate the SentinelLM service and click **Start**.

If the license server does not start, contact Mercury Interactive Customer Support for assistance.

Error 19: Cannot install a license code

Error 19 can occur in two situations:

➤ **Failed to add license string "Unknown" to the license server on "NO-NET."**

A seat license cannot be installed on the concurrent license server running on the specified computer.

➤ **Failed to add license string UNKNOWN to the license server on "Local-host."**

A concurrent license cannot be installed on the concurrent license server running on the specified computer.

Reasons that Error 19 Occurs

The following table provides general information about why error 19 occurs:

Possible Causes	Possible Solutions
The license code is node-locked and does not match the locking code of the PC where the license server is being installed.	Contact Mercury Interactive Customer Support to reissue the license with the correct license code.
When you try to install a seat license, the license code is for a concurrent license.	Copy **lsdecode.exe** from **Mercury Functional Testing Concurrent License Server CD-ROM\utils** to **Program Files\Common Files\Mercury Interactive\License Manager** and run the **lsdecode.exe** file. This displays the license code information, which enables you to verify that you are installing the correct license type.
The license code was entered incorrectly.	Copy **lsdecode.exe** from **Mercury Functional Testing Concurrent License Server CD-ROM\utils** to **Program Files\Common Files\Mercury Interactive\License Manager** and run the **lsdecode.exe** file. This displays the license code information, which enables you to verify that you are installing the correct license type.
The license code has already been installed.	Check whether the **lservrc** file exists in the folder in which the Sentinel LM server is installed. By default, the Sentinel LM 7.3.0 Server is located in **C:\Program Files\Rainbow Technologies \Sentinel LM 7.3.0 Server\English\ lservrc**. If the **lservrc** file exists, the license code is installed already. You may use the license server.

Concurrent License Server Utilities

This chapter provides a general overview of the utilities included with the Mercury Functional Testing Concurrent License Server. These utilities assist you in managing your QuickTest Professional and WinRunner concurrent licenses, and are part of the Sentinel License Manager, which is supplied with the Mercury Functional Testing Concurrent License Server.

For more information about the utilities described in this chapter, refer to the *SentinelLM System Administrator's Guide* (**SysAdminGuide.pdf**) located on the **Mercury Functional Testing Concurrent License Server CD-ROM** in the **Server** folder.

This chapter describes:

➤ Overview

➤ Displaying Current Concurrent License Server Users

➤ Displaying License Servers

➤ Monitoring License Servers

➤ Setting the LSHOST or LSFORCEHOST Variable

Overview

You can use the WLMADMIN utility to monitor a concurrent license server. You can use the other Mercury Functional Testing server management utilities to verify and manage specific elements of your concurrent license server.

You can start Mercury Functional Testing server management utilities from a Windows user interface by running **SrvUtils.exe** in the **Mercury Functional Testing Concurrent License Server Installation CD-ROM\utils** folder.
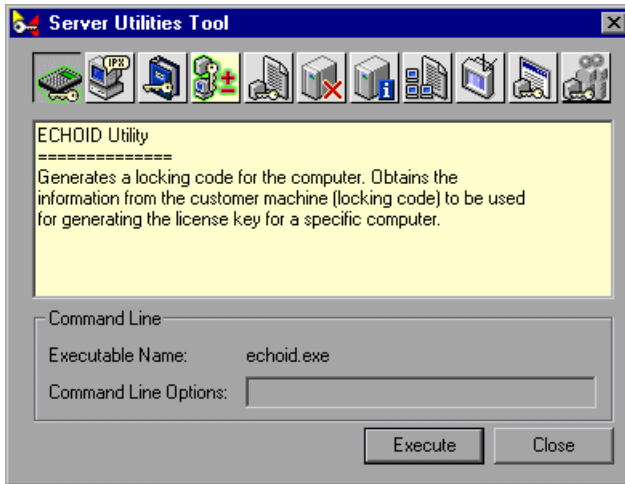
The following table provides a brief description of the Mercury Functional Testing license management utilities and brief examples to facilitate usage:

Utility	Description/Example of Usage
ECHOID Utility **echoid.exe**	Generates a computer's locking code. Obtains the information from your computer (locking code) that is used to generate the license key for a specific computer.
IPXECHO Utility **ipxecho.exe**	Displays the IPX network address on the computer on which it is run. Used to determine the IPX address of a license server.
LSDECODE Utility **lsdecode.exe**	Displays the license code information, which enables you to check that you are installing the correct license type.
	It decodes a Mercury Functional Testing concurrent license code (lservrc) and retrieves license information, for example, the license type, the maximum number of concurrent users, and so forth.
	Make sure that the server utilities application (**SrvUtils.exe**) and the LSDECODE utility (**lsdecode.exe**) are located in the same directory as the **lservrc** file.

Utility	Description/Example of Usage
LSLIC Utility **lslic.exe**	Adds or removes a license code. You can use the following command line options: • -a (add) -f (file name): adds a license code from a license file • -removeall removes all licenses from a Mercury Functional Testing Concurrent License Server Either use the LSHOST environment variable to specify the license server or ensure that the server utilities application (**SrvUtils.exe**) and the LSLIC utility (**lslic.exe**) are located in the same directory as the **lservrc** file.
LSMON Utility **lsmon.exe**	Monitors a Mercury Functional Testing Concurrent License Server computer. You can run the LSMON utility on a client computer (running QuickTest or WinRunner, and connected to a concurrent license server) or the host computer (the license server). To monitor a remote Mercury Functional Testing Concurrent License Server, specify <host name> or <IP address>. For example, c:\lsmon.exe saturn monitors the saturn host. For more information on this utility, see "Displaying Current Concurrent License Server Users" on page 31.
LSRVDOWN Utility **lsrvdown.exe**	Shuts down the license server. Specify the license server host name as the command line option for this utility. You can also shut down the license server by stopping the service. For more information, see "Stopping and Restarting the Concurrent License Server" on page 19.

Utility	Description/Example of Usage
LSUSAGE Utility **lsusage.exe**	Displays usage information generated by the license server. The license server logs all license codes issued or denied, but it does not record license code updates. For example, lsusage.exe -l Usage-log-file [-c CSV-Format-New-log-file] [-f Feature-Name1,Version:Feature-Name2,Version ...] [-y Start-Year(YYYY) [-m Start-Month(MM) [-a Start-Day(DD)]]] [-Y End-Year(YYYY) [-M End-Month(MM)] [-A End-Day(DD)]]]
LSWHERE Utility **lswhere.exe**	Searches for Mercury Functional Testing Concurrent License Servers on the network and displays the names of all the computers running license servers. You can run this utility on a client computer (running QuickTest or WinRunner, and connected to a concurrent license server) or the host computer (the license server). The parameter -<IP address> searches for a specific network host. For more information on this utility, see "Displaying License Servers" on page 31.
SLMDEMO Utility **slmdemo.exe**	Simulates license usage. This utility can "add" or "remove" licenses to or from a specific server and produce a log file. You can use this utility to check that the license key is installed correctly on the license server host and that you have the correct number of concurrent licenses.
WLMADMIN Utility **WLMAdmin.exe**	Monitors Mercury Functional Testing Concurrent License Server transactions and provides information on license servers, users, and computers running QuickTest or WinRunner using a concurrent license server. You can use this utility to check that a Mercury Functional Testing Concurrent License Server is running, and to monitor its usage. For more information on this utility, see "Monitoring License Servers" on page 32.

Utility	Description/Example of Usage
WLSGRMGR Utility **Wlsgrmgr.exe**	Provides an easy way to create a reservation file that reserves license tokens for specific network users or computers, or excludes specific users or computers from using license tokens.
WCommute.exe	Enables a concurrent license user to check out and check in a commuter license for QuickTest or WinRunner (either on the local computer or on a remote computer). A commuter license enables concurrent license users to temporarily use QuickTest or WinRunner on a computer that is temporarily not connected to the network. For more information on this utility, refer to the *QuickTest Professional Installation Guide* or the *WinRunner Installation Guide*. Note that this utility can be activated only from the command line, and not from within the Server Utilities Tool window.
WRCommute.exe	Enables a concurrent license user to generate a locking code for a remote computer, which can be used to obtain and install a commuter license for QuickTest or WinRunner. For more information on this utility, refer to the *QuickTest Professional Installation Guide* or the *WinRunner Installation Guide*. Note that this utility can be activated only from the command line, and not from within the Server Utilities Tool window.

The following table provides a description of variables used on QuickTest or WinRunner client computers to designate or control which concurrent license server(s) can be used:

Utility	Description/Example of Usage
LSFORCEHOST variable	Restricts a QuickTest or WinRunner client to a specific concurrent license server. (You can specify the license server by either host name or IP address.) For information on setting this variable, see "Setting the LSHOST or LSFORCEHOST Variable" on page 34.
LSHOST variable	Specifies the preferred concurrent license server for a QuickTest or WinRunner client. If the specified concurrent license server cannot be found, then a search is conducted on the entire network. Use this variable in order to contact a server in a remote subnet. For information on setting this variable, see "Setting the LSHOST or LSFORCEHOST Variable" on page 34.

Displaying Current Concurrent License Server Users

You can run the LSMON utility on a client computer (running QuickTest or WinRunner, and connected to the concurrent license server) or the host computer (the concurrent license server).

The LSMON utility is a DOS-based program that displays:

➤ the maximum number of concurrent QuickTest or WinRunner users allowed.

➤ the number of computers currently connected to the concurrent license server.

➤ the IDs of the computers currently connected to the concurrent license server.

➤ the number of licenses currently not in use.

Note: To run the LSMON utility from a client computer and display information for all the computers in the network, type LSMON <license server host name>.

Displaying License Servers

You can run the LSWHERE utility on a client computer (running QuickTest or WinRunner, and connected to the concurrent license server) or the host computer (the concurrent license server). It is a Windows-based program that displays the network names of all computers running the Mercury Functional Testing Concurrent License Server.

Monitoring License Servers

You can run the WLMADMIN utility on a client computer (running QuickTest or WinRunner, and connected to the concurrent license server) or the host computer (the concurrent license server). It enables you to monitor license server transactions for each Mercury product connected to the server and provides information on license servers, users, and computers running Mercury products using concurrent licenses. You can use this utility to monitor license server activity.
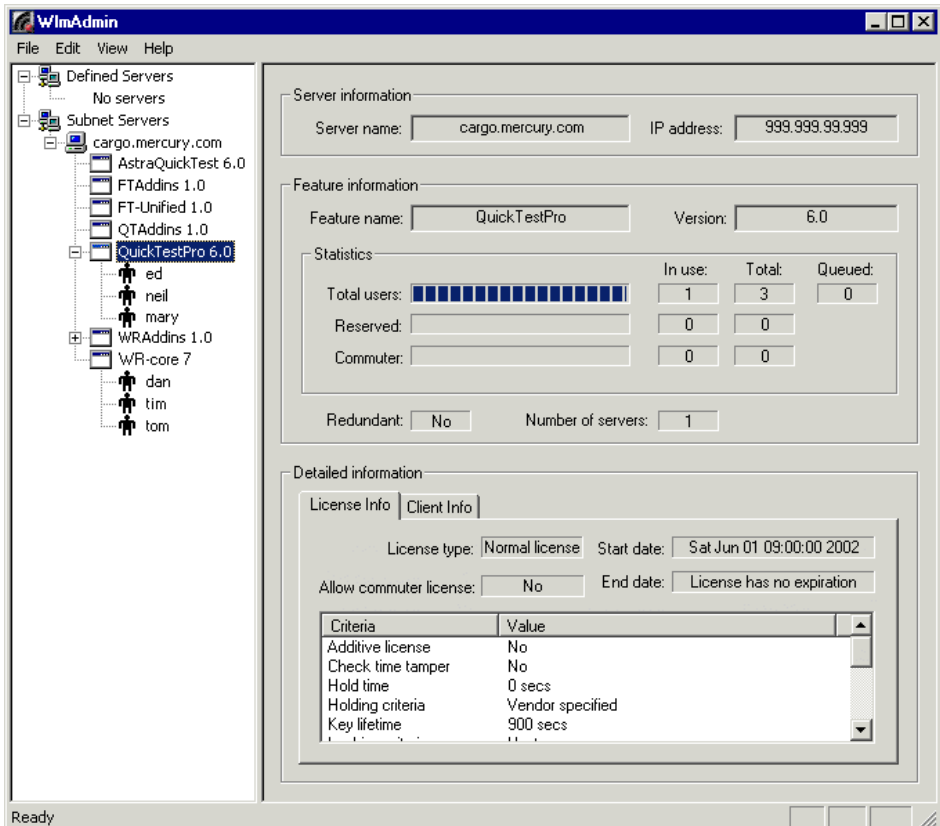
Note that in the above example, QuickTest and WinRunner share the same concurrent license server.

Note: The feature (license) names indicate the earliest supported version. For example, the feature **QuickTestPro 6.0** supports QuickTest Professional, version 6.0 and later; the feature **WR-core 7** supports WinRunner 7.0 and later.

Understanding How the License Server Determines the Type of License to Issue

When a user opens a QuickTest or WinRunner client that is set to work with a concurrent license, the client sends a license request to the concurrent license server. If the concurrent license server has multiple licence types available, for example, **FT-Unified**, **QuickTestPro 6.0**, and **WR-core 7**, the functional testing tool applies program logic to determine the license type to request for this session. The license type may be product-specific, such as **QuickTestPro 6.0** or **WR-core 7**, or global and applicable to both QuickTest and WinRunner—**FT-Unified**.

The first time a QuickTest or WinRunner client sends a request to the concurrent license server, it requests a product-specific license. If that license type is available, the concurrent license server issues it. If that license type is unavailable, the functional testing tool requests a global license. If no license is available, the functional testing tool displays a message indicating that all licenses are in use.

For subsequent sessions, the functional testing tool always requests the same type of license that was issued during the previous session. If that license type is unavailable, the functional testing tool requests the alternate license type.

For example, if the last time that the QuickTest client connected to the license server it was issued a **QuickTestPro 6.0** license, it requests the same license type again. If no **QuickTestPro 6.0** license is available, it requests an **FT-Unified** license.

Similarly, if the last time that the WinRunner client connected to the license server, it was issued an **FT-Unified** license, it requests the same license type again. If no **FT-Unified** license is available, it requests a **WR-core 7** license.

Setting the LSHOST or LSFORCEHOST Variable

You set the LSHOST or LSFORCEHOST variable to enable QuickTest or WinRunner to search for a specific Mercury Functional Testing Concurrent License Server on the network. The LSHOST variable sets the preferred concurrent license server for a QuickTest or WinRunner client. If the specified concurrent license server cannot be found, then a search is conducted on the entire network. The LSFORCEHOST variable restricts QuickTest or WinRunner to a specific concurrent license server. The LSHOST and LSFORCEHOST variables are described on page 30.

You may need to set the LSHOST or LSFORCEHOST variable if the Mercury Functional Testing Concurrent License Server is installed on a different domain or subnet than the QuickTest or WinRunner clients, as described in "Known Problems and Workarounds" on page 21.

To set the LSHOST or LSFORCEHOST variables if the client computer is running Windows 2000, XP, or 2003:

1 Click **Start** > **Settings** > **Control Panel**.

2 Double-click **System**. The System Properties dialog box opens.

3 Click the **Advanced** tab.

4 Click the **Environment Variables** button. The Environment Variables dialog box opens.

5 In the **User Variables for <user name>** list, click **New**. The New User Variable dialog box opens.

**6** In the **Variable Name** box, type LSHOST or LSFORCEHOST.

7 In the **Variable Value** box, type the full name of the license server you want to use for the LSHOST or LSHOSTFORCE variable. Alternatively, you may enter the IP address of the host computer.

Notes:

The LSHOST and LSHOSTFORCE environment variable values are limited to 64 characters.

For multiple host names (i.e., where there are Mercury Functional Testing Concurrent License Servers running on one network), use a semicolon (;) to separate the hosts' names or IP addresses in the Value box.

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8 Click **OK** to close the New User Variable dialog box.
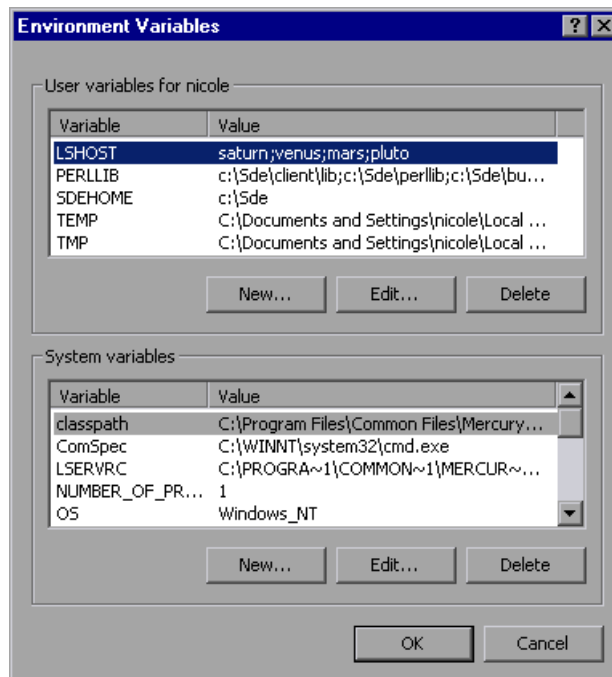
9 Under **System variables**, click **New**. The New System Variable dialog box opens.

10 Repeat steps 6 and 7.

11 Click **OK** to close the New System Variable dialog box.

12 Click **OK** to close the Environment Variables dialog box.

13 Click **OK** to close the System Properties dialog box.

Uninstalling a Concurrent License Server

You can uninstall the concurrent license server, if needed. For example, if you want to upgrade to the latest version of the license server, you must first uninstall any previously installed version.

Notes:

If you uninstall a concurrent license server, computers that previously used concurrent licenses from this server will not be able to run their QuickTest or WinRunner clients. To run a QuickTest or WinRunner client, you must install a seat license on each QuickTest and WinRunner computer, or set up the computers to access a different concurrent license server. For more information about changing a concurrent license to a seat license, refer to the *QuickTest Professional Installation Guide* or the *WinRunner Installation Guide*.

If you want to uninstall the license server in order to reinstall it on a different computer, contact Mercury Interactive Customer Support to receive a new license code that matches the locking code for the computer on which you want to install the license server.

To uninstall the concurrent license server:

 1 Save the **lservrc** file to a backup location. The **lservrc** file is located in the folder in which the Sentinel LM server is currently installed, for example, C:\Program Files\Rainbow Technologies \Sentinel LM 7.3.0 Server\English\ lservrc. For more information, see step 5 on page 11.

 2 Click **Start** > **Settings** > **Control Panel** > **Add/Remove Programs**.

The Add/Remove Programs dialog box opens.

3 Remove the **SentinelLM 7.x.x Server**.

Note: You can also uninstall the concurrent license server using the uninstall utility located on the Mercury Functional Testing Concurrent License Server CD-ROM for your current installation. Do not use the CD-ROM for any other version of the license server, as this may cause unexpected behavior.