

# HP Unified Functional Testing

Software Version: 11.50

## Installation Guide

Document Release Date: December 2012

Software Release Date: December 2012



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To find more information about access levels, go to:

**[http://h20230.www2.hp.com/new\\_access\\_levels.jsp](http://h20230.www2.hp.com/new_access_levels.jsp)**

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# Welcome to the HP Unified Functional Testing Installation Guide

This chapter includes:

- "HP Unified Functional Testing (UFT) Installation Guide Overview" on page 7
- "UFT Help Contents" on page 8
- "Additional Online Resources" on page 12

## HP Unified Functional Testing (UFT) Installation Guide Overview

Welcome to the *HP Unified Functional Testing Installation Guide*.

This guide describes how to install and set up UFT on a standalone computer.

### **Prerequisite Background**

This guide is intended for users who need to install and set up UFT and for administrators who want to set up a silent installation for users in their organization.

## UFT Help Contents

This guide is part of the UFT Help. The UFT Help provides a single point of access for all UFT documentation.

You can access the UFT Help by using the following:

- ▶ Select **Help > Unified Functional Testing Help**.
- ▶ In the **Start** menu, select **Program Files > HP Software > HP Unified Functional Testing > Documentation > HP Unified Functional Testing Help**.
- ▶ Click in selected UFT windows and dialog boxes or press F1.
- ▶ View a description, syntax, and examples for a UFT test object, method, or property by placing the cursor on it and pressing F1.

The UFT Help includes the following:

Type	Included Documentation
<p><b>Getting to Know UFT Documentation</b></p>	<ul style="list-style-type: none"> <li>▶ <b>Readme</b> provides the latest news and information about UFT. Select <b>Start &gt; All Programs &gt; HP Software &gt; HP Unified Functional Testing &gt; Readme</b>.</li> <li>▶ <b>HP Unified Functional Testing Product Availability Matrix</b> provides a list of the software and technologies supported in UFT.</li> <li>▶ <b>What's New</b> provides an overview of the features, enhancements, and supported environments that are new in the current version of UFT. Choose <b>Help &gt; What's New</b>.</li> <li>▶ <b>Installation Guides</b> explain how to install and set up UFT or the HP Functional Testing Concurrent License Server. Select <b>Help &gt; UFT Help</b> and click the link to the appropriate guide from the left pane.</li> <li>▶ <b>UFT Tutorial for GUI Testing</b> and <b>UFT Tutorial for API Testing</b> teach you basic UFT skills for GUI Testing and API testing and shows you how to design tests for your applications. Select <b>Help &gt; UFT Help</b> and select the appropriate tutorial from the left pane..</li> <li>▶ <b>UFT Product Movies</b> provide an overview and step-by-step instructions describing how to use selected UFT features. Select <b>Help &gt; Product Feature Movies</b>.</li> </ul>

Type	Included Documentation
<b>Feature Documentation</b>	<p><b>Unified Functional Testing Help</b> includes:</p> <ul style="list-style-type: none"><li>➤ <b>Home</b> provides links to the UFT Help guides in each available format (Help, PDF, and/or HTML).</li><li>➤ <b>HP UFT User Guide</b> describes how to use UFT to test your application.</li><li>➤ <i>HP Run Results Viewer User Guide</i> describes how to use the Run Results Viewer to view and analyze the run results from your tests or components.</li><li>➤ <b>HP UFT Add-ins Guide for GUI Testing</b> describes how to work with supported environments using UFT add-ins, and provides environment-specific information for each add-in.</li><li>➤ <b>HP Unified Functional Testing Object Model Reference for GUI Testing</b> describes UFT GUI testing objects, lists the methods and properties associated with each object, and provides syntax information and examples for each method and property.</li></ul>

Type	Included Documentation
<p><b>Reference Documentation</b></p>	<ul style="list-style-type: none"> <li>▶ <b>HP Unified Functional Testing Advanced References</b> contains documentation for the following UFT COM and XML references: <ul style="list-style-type: none"> <li>▶ <b>HP Unified Functional Testing Automation Object Model for GUI Testing</b> provides syntax, descriptive information, and examples for the automation objects, methods, and properties. It also contains a detailed overview to help you get started writing UFT automation scripts. The automation object model assists you in automating test management, by providing objects, methods and properties that enable you to control virtually every UFT feature and capability.</li> <li>▶ <b>HP Unified Functional Testing Run Results Schema</b> documents the run results XML schema, which provides the information you need to customize your run results.</li> <li>▶ <b>HP Unified Functional Testing Test Object Schema for GUI Testing</b> documents the test object XML schema, which provides the information you need to extend test object support in different environments.</li> <li>▶ <b>HP Unified Functional Testing Object Repository Schema for GUI Testing</b> documents the object repository XML schema, which provides the information you need to edit an object repository file that was exported to XML.</li> <li>▶ <b>HP Unified Functional Testing Object Repository Automation for GUI Testing</b> documents the Object Repository automation object model, which provides the information you need to manipulate UFT object repositories and their contents from outside of UFT.</li> <li>▶ <b>VBScript Reference</b> contains Microsoft VBScript documentation, including VBScript, Script Runtime, and Windows Script Host.</li> </ul> </li> </ul>

## Additional Online Resources

**Sample applications.** The following sample applications are the basis for many examples in this guide:

- ▶ **Mercury Tours sample Web site.** The URL for this Web site is [newtours.demoaut.com](http://newtours.demoaut.com).
- ▶ **Mercury Flight application.** To access from the **Start** menu, select **Program Files > HP Software > HP Unified Functional Testing > Sample Applications > Flight**.

**Troubleshooting & Knowledge Base** accesses the Troubleshooting page on the HP Software Support Web site where you can search the Self-solve knowledge base. Choose **Help > Useful Links > Troubleshooting \ Knowledge Base**. The URL for this Web site is <http://h20230.www2.hp.com/troubleshooting.jsp>.

**HP Software Support** accesses the HP Software Support Web site. This site enables you to browse the Self-solve knowledge base. You can also post to and search user discussion forums, submit support requests, download patches and updated documentation, and more. Choose **Help > HP Software Support Site**. The URL for this Web site is [www.hp.com/go/hpsoftwaresupport](http://www.hp.com/go/hpsoftwaresupport).

Most of the support areas require that you register as an HP Passport user and sign in. Many also require a support contract.

To find more information about access levels, go to:

[http://h20230.www2.hp.com/new\\_access\\_levels.jsp](http://h20230.www2.hp.com/new_access_levels.jsp)

To register for an HP Passport user ID, go to:

<http://h20229.www2.hp.com/passport-registration.html>

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# 1

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## Before You Install

Welcome to HP Unified Functional Testing (UFT), the advanced keyword-driven testing solution for functional test and regression test automation. UFT is part of HP ALM. This guide describes everything you need to know to install UFT on a standalone computer.

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**Note:** Unless otherwise specified, references to **Application Lifecycle Management** or **ALM** in this guide apply to all currently supported versions of ALM and Quality Center. Note that some features and options may not be supported in the specific edition of ALM or Quality Center that you are using.

For a list of the supported versions of ALM or Quality Center, see the *HP Unified Functional Testing Product Availability Matrix*, available from the UFT Help or the root folder of the Unified Functional Testing DVD. The most up-to-date product availability matrix is available from the HP Software Product Manuals site, at <http://h20230.www2.hp.com/selfsolve/manuals> (requires an HP Passport).

For details on ALM or Quality Center editions, see the *HP Application Lifecycle Management User Guide* or the *HP Quality Center User Guide*.

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**Note:**

Before you install UFT, confirm that your computer meets all system requirements. For details, see the *HP Unified Functional Testing Readme*. For the most updated listing of supported system configurations, visit [www.hp.com/go/uft\\_sysreq](http://www.hp.com/go/uft_sysreq).

You can upgrade to UFT 11.50 only from QuickTest version 9.5 or later. If you are using a version earlier than QuickTest 9.5, you must first manually uninstall your current QuickTest version and the QuickTest Add-in for ALM/QC. For more details, see "Considerations When Upgrading from an Earlier Version of QuickTest" on page 17.

You must not run any other installation at the same time as you run the UFT installation. In addition, you should ensure before you install UFT that your computer is not in a state that requires a restart. If this is the case, the installation will not run.

**This chapter includes:**

- ▶ Setting Required Access Permissions on page 16
- ▶ Considerations When Upgrading from an Earlier Version of QuickTest on page 17

## Setting Required Access Permissions

You must make sure the following access permissions are set to install and run UFT.

### Permissions Required to Install UFT

You must have administrator permissions on the computer on which you are installing UFT. You also need administrator rights for any other installation tasks, for example, uninstalling UFT, repairing or modifying the installation, or installing a patch.

In some circumstances, the installation may require a system restart. If a computer restart is required, your administrator permissions must include the part of the installation that occurs after the restart.

### **Permissions Required to Run UFT**

You must have the following file system permissions:

- Full read and write permissions for all the files and folders under the folder in which UFT is installed
- Full read and write permissions to the Temp folder
- Read permissions to the Windows folder and to the System folder

You must have the following registry key permissions:

- Full read and write permissions to all the keys under **HKEY\_CURRENT\_USER\Software\Mercury Interactive**
- Read and Query Value permissions to all the **HKEY\_LOCAL\_MACHINE** and **HKEY\_CLASSES\_ROOT** keys

### **Permissions Required When Working with ALM**

You must have the following permissions to use UFT with ALM:

- Full read and write permissions to the ALM cache folder
- Full read and write permissions to the UFT Add-in for ALM/QC installation folder

## **Considerations When Upgrading from an Earlier Version of QuickTest**

- You can automatically install UFT 11.50 from QuickTest version 9.5 or later. The previous version of QuickTest is uninstalled.
- If you are upgrading to UFT 11.50 from a version earlier than QuickTest 9.5, you must first manually uninstall your current QuickTest version and the QuickTest Add-in for ALM/QC. Otherwise, the installation process will not run. At the end of the uninstall process, restart your computer and install the new version and add-in.

- ▶ UFT supports the Sentinel RMS License Manager version 8.4.0 as its concurrent license server. If you are upgrading to UFT with a concurrent license, you must also upgrade your concurrent license server. For details on setting up a concurrent license server, see the *HP Functional Testing Concurrent License Server Installation Guide*.
- ▶ License data is retained when upgrading from QuickTest Professional version 9.5 or later. However, if you have not installed a license before the upgrade, you must run the UFT License Wizard as part of the installation. For more details, see step 11 on page 30.
- ▶ All add-ins that were installed in version 9.5 are identified during the upgrade and checked by default in the feature selection page of the installation. You can add or remove add-ins during the installation.
- ▶ All settings defined in **Tools > Options** are retained.
- ▶ Connection settings to ALM are not retained by the upgrade process. If required, you must reconnect to ALM after the installation. To install the latest version of the ALM Add-in, you must manually uninstall the previous version of the Add-in before installing the latest version.

# 2

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## Setting Up UFT

When you install UFT, you must know which features and add-ins to you want to use. The installation process automatically installs UFT and the Web, Visual Basic, and ActiveX Add-ins, and also enables you to select which additional features and add-ins to install. For more details on add-ins, see the *HP Unified Functional Testing Add-ins Guide*.

You must also know which type of license you want to install. A **Seat** license is a permanent license that is specific to the computer on which the license is installed, and a **Concurrent** license is a per session license that is available only if your company has an HP Functional Testing Concurrent License Server. For more details, see "Understanding the UFT Setup for Different License Types" on page 20.

Your UFT license enables all UFT features, including the use of all UFT add-ins. You can use the latest released version of all UFT add-ins with UFT. If upgrading from a previous version, only previously licensed add-ins will be available.

You can also set up UFT to install silently (in the background), and on remote computers.

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**Note:** When you open UFT, a silent check for updates to the application is performed in the background. You can check online for updates to all HP products installed on your computer at any time by choosing **Start > Programs > HP > HP Update**. You can then select which updates you want to download and (optionally) install.

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**This chapter includes:**

- ▶ Understanding the UFT Setup for Different License Types on page 20
- ▶ Considerations for Installing UFT on page 22
- ▶ Installing Unified Functional Testing on page 23
- ▶ Working with the Additional Installation Requirements Utility on page 35
- ▶ Unified Functional Testing Setup Window Options on page 47
- ▶ Browsing the UFT Program Folder on page 49
- ▶ Setting Up a Silent Installation on page 50
- ▶ Unified Functional Testing User Interface Pack Installation on page 59
- ▶ Troubleshooting and Limitations - Installing UFT on page 61

## Understanding the UFT Setup for Different License Types

The general procedures for installing UFT and activating a license differ for the various license types: **Seat**, and **Concurrent**. This section summarizes the procedures required for the different license types and directs you to the detailed information for each step.

### Setting Up UFT with a Seat License

This section summarizes the procedure for setting up UFT with a seat license. A seat license is a permanent license that is specific to the computer on which the license is installed. The seat license includes a 30-day demo period, during which you may use all of the available UFT features. Before the demo period ends, you must contact HP to obtain a permanent seat license key.

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**Note:** If you want to run UFT using the demo license, do not run the License Installation wizard. The first time you open UFT, you are notified that the demo period started.

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**To set up UFT with a seat license:**

- 1** After you install UFT, the Additional Installation Requirements screen opens. Make sure that **Run License Installation Wizard** is selected, and click **Run**.
- 2** When the License Installation wizard opens to the License Type screen, select **Seat**. For more details, see step 13 of “Installing UFT” on page 31.
- 3** Run UFT. Click **Install License** on the displayed warning message and request a seat license key from HP, as described in "Requesting a Seat License Key" on page 67.
- 4** After you receive the license key from HP, run the license installation wizard again to install your license key. For more details, see "Installing a Seat License Key" on page 70.

**Setting Up UFT with a Concurrent License**

This section summarizes the procedure for setting up UFT with a concurrent license. A concurrent license is a per session license that is available only if your company has an HP Functional Testing Concurrent License Server, your computer has access to that server, and a free concurrent license is available for your use.

**To set up UFT with a concurrent license:**

- 1** Install the HP Functional Testing Concurrent License Server on a network computer and activate the HP Functional Testing Concurrent License Server license. For more details, see the *HP Functional Testing Concurrent License Server Installation Guide*. This guide is installed on the computer where the HP Functional Testing Concurrent License Server is installed, and is called **MerLicSvr.pdf**.
- 2** Run the UFT setup program on each client computer. In the License Type screen, select **Concurrent License**. For more details, see step 13 of “Installing UFT” on page 31.

- 3 Begin using UFT. When UFT opens, it automatically searches for the specified license server and connects to it.

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**Note:** If your computer cannot find and connect to the license server, you may need to set the LSHOST or LSFORCEHOST variable. For more details, see the *HP Functional Testing Concurrent License Server Installation Guide*.

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## Considerations for Installing UFT

- ▶ If you are upgrading to UFT from QuickTest Professional version 9.5 or earlier, you need to first uninstall your current QuickTest version and the QuickTest Add-in for ALM/QC. Otherwise, the installation process will not run. At the end of the uninstall process, restart your computer and install the new version and add-in.
- ▶ If you are upgrading to UFT from QuickTest version 9.5 or later, the installation wizard uninstalls your previous version of QuickTest and installs UFT. The installation retains your existing configuration settings and preferences, such as your Options settings, as well as all your tests.
- ▶ UFT supports the Sentinel RMS License Manager version 8.4.0 as its concurrent license server. If you are upgrading to UFT with a concurrent license, you must also upgrade your concurrent license server. For details on setting up a concurrent license server, see the *HP Functional Testing Concurrent License Server Installation Guide*.

- If you have Astra QuickTest and/or Astra LoadTest installed, you must uninstall them before installing UFT. After you install UFT, you can then reinstall your other HP products.
- If the HP UFT Files in Use dialog box is displayed during the installation process:
  - Close the applications listed in the dialog box and click **Try Again**.
  - If the HP UFT Files in Use dialog box is displayed again, click the **Exit Installation** button and restart your computer. After the restart is complete, do not open any applications. Run the UFT Setup program again.
  - If after restarting, the HP UFT Files in Use dialog box lists Explorer as the open application, click **Continue**. If prompted, restart your computer at the end of the installation.

## Installing Unified Functional Testing

Your UFT DVD includes an installation program that guides you through the installation process.

### To install UFT:

#### 1 Prerequisites:

- a Make sure you are logged on with Administrator privileges.
- b Select a local drive on which to install UFT.  
(Do not install UFT on a network drive.)

#### 2 Insert the UFT installation DVD into the DVD drive.

- If the DVD drive is on your local computer, and Autoplay is enabled, the UFT Setup window opens. If Autoplay is disabled on your computer, right-click the DVD drive and select **Autoplay**.
- If you are installing from a network drive, double-click **setup.exe** in the root folder of the DVD.

The Setup window opens.



See "Unified Functional Testing Setup Window Options" on page 47 for more details on the various options available in the UFT setup window.

- 3** Click **Unified Functional Testing Setup** to start the UFT Setup program.
- 4** UFT requires specific software, for example, Microsoft Visual C++ Runtime components, to be installed before you install UFT. If Setup finds that the prerequisite software is not already installed on your computer, a screen opens listing the prerequisite programs.

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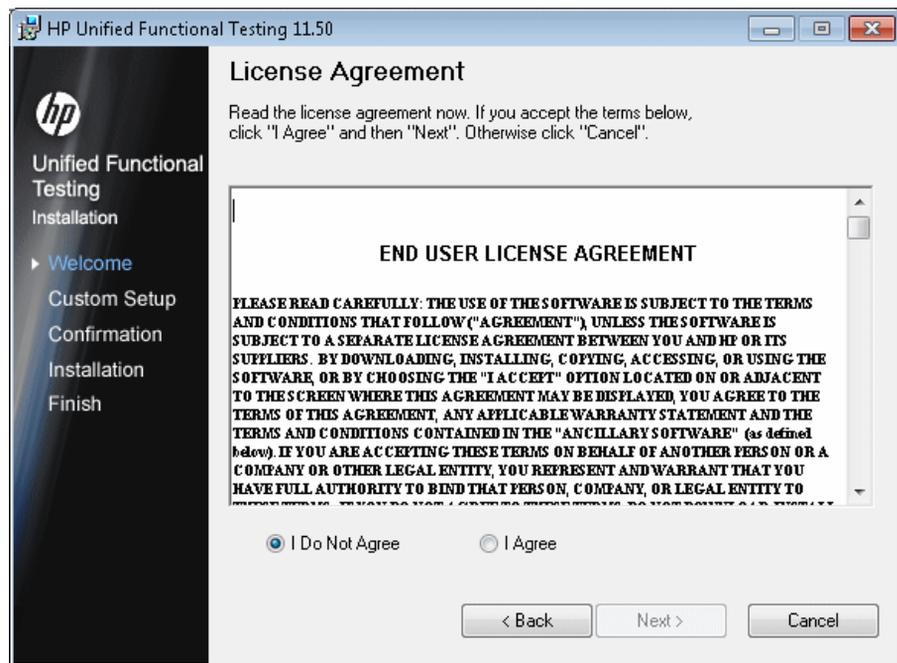
**Tip:** Select an item in the list to display a description of the program.

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Click **OK** and follow the on-screen instructions to install the listed software before continuing with the UFT installation. If you click **Cancel**, Setup stops because UFT cannot be installed without the prerequisite software.

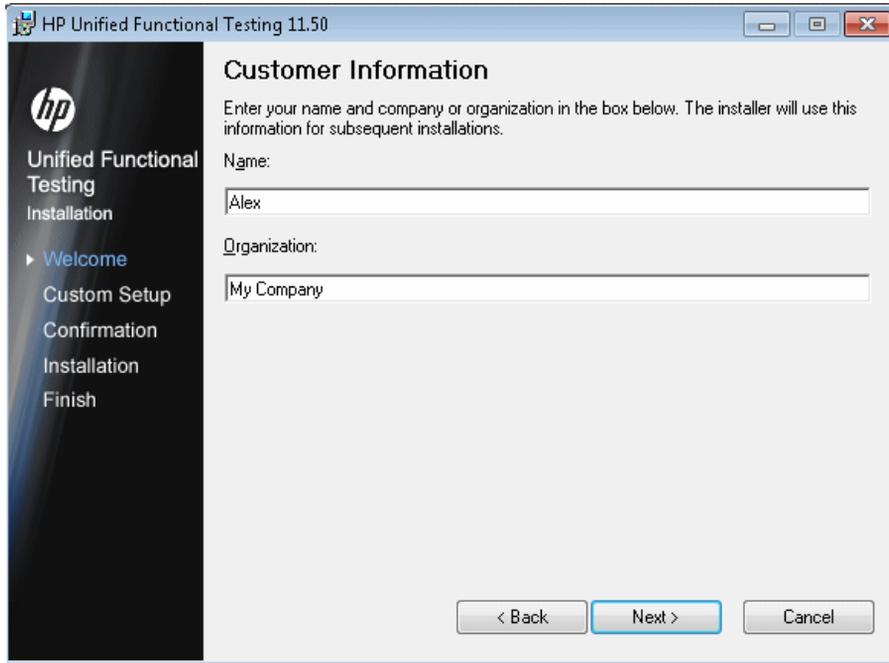
In some situations, you may be prompted to restart your computer after installing the prerequisite software. To continue with the installation after restarting your computer, run the Setup program again.

- 5 The Welcome to the HP Unified Functional Testing Setup Wizard opens. Click **Next** to proceed.
- 6 The License Agreement screen opens. Read the agreement.



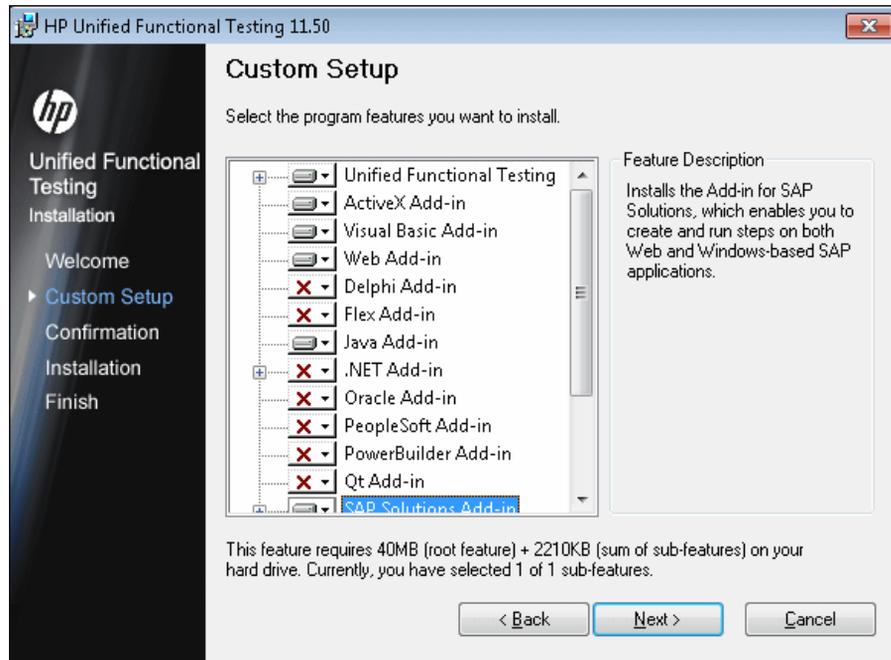
To install UFT, you must accept the terms of the license agreement by selecting **I Agree** and clicking **Next**.

- 7 In the Customer Information screen, type your name and the name of your organization.



Click **Next** to proceed.

- 8 In the Custom Setup screen, select the components that you want to install.



**Note:** Loading add-ins enables UFT to work with the corresponding environments. You can install the add-ins you require when you install UFT, or you can install them at a later time by running the installation again. When UFT opens, you can select which of the installed add-ins you want to load using the Unified Functional Testing Add-In Manager dialog box. For more details on the Add-in Manager, see the *HP Unified Functional Testing Add-ins Guide*.

You can select an item in the list to see a description of the feature as well as the space requirement for the feature on your drive.

Click an icon to view a menu and select how that feature is installed on your computer. The following options are available, depending on the feature:



- **Will be installed on local hard drive.** Installs the selected feature on your local hard drive. Sub-features of the selected feature are not installed.



- **Entire feature will be installed on local hard drive.** Installs the entire selected feature and its sub-features on your local hard drive. For example, you can instruct UFT to install the .NET Add-in with its sub add-ins, Silverlight and Windows Presentation Foundation.



- **Entire feature will be unavailable.** Excludes the feature from the installation and it is not available in UFT.

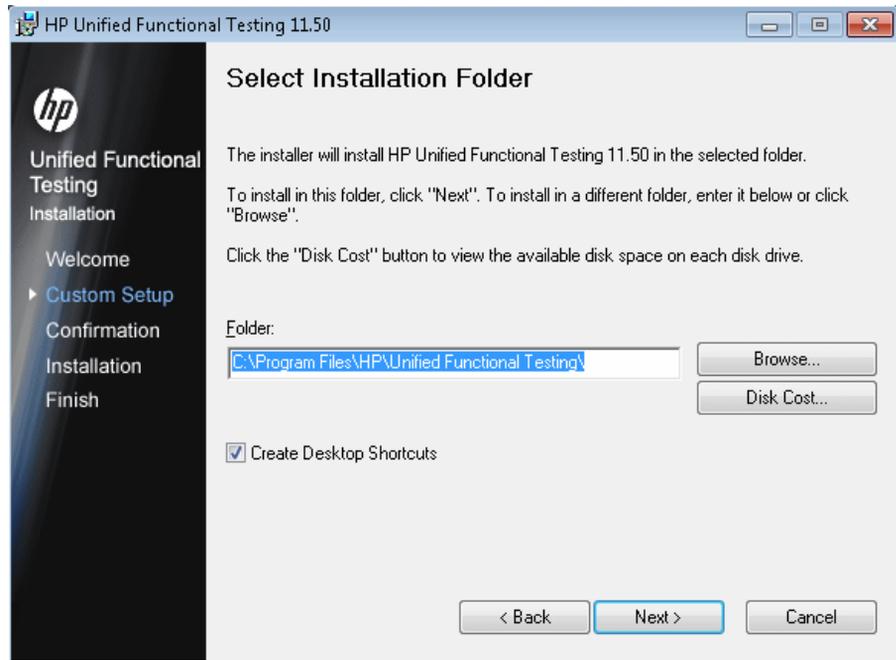
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**Note: Unified Functional Testing, its Core Components, and the Run Results Viewer** option, cannot be cleared.

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Click **Next**. If you are upgrading from QuickTest version 9.5 or later, the upgrade installation automatically installs UFT in the same folder in which the previous version of QuickTest was installed. Proceed to step 10.

- 9 In the Select Installation Folder screen, select the location where you want to install UFT



- To select a different location, click **Browse**, select a folder, and then click **OK**. You must specify a folder on a mapped drive (not a UNC path). If the destination folder does not exist, the setup program creates it.
- To view the required and available space on each of your mapped drives, click **Disk Cost**.

Ensure that you install UFT on a drive with a sufficient amount of free disk space. For more details, see the system requirements, as described in the *HP Unified Functional Testing Readme*.

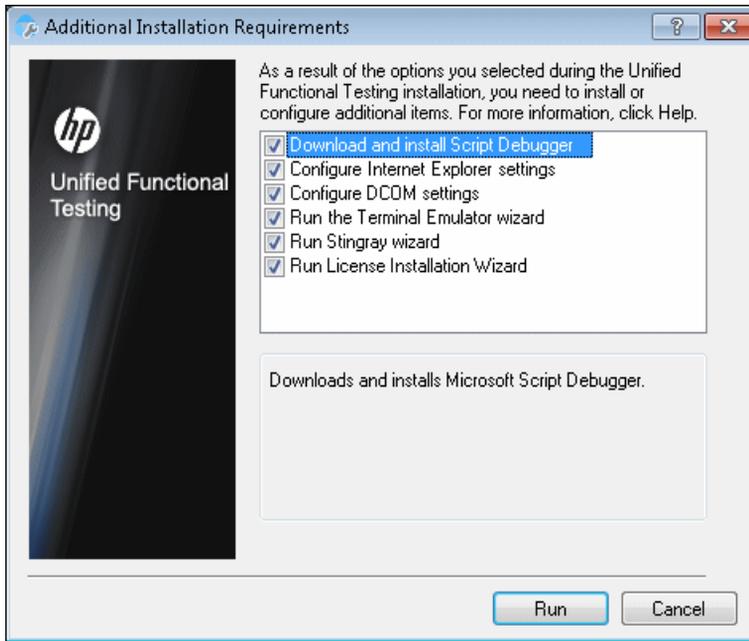
The disk cost amount only indicates the space in the installation folder. You should add another 300 MB that are required for additional system files and utilities installed with UFT.

Click **Next** to proceed.

**10** The Confirm Installation screen opens. Click **Next** to proceed, and the installation process begins. The Installing HP Unified Functional Testing screen displays the progress of the installation.

**11** When the installation is complete, click **Finish**.

The Additional Installation Requirements screen opens.



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**Note:** After the UFT installation is complete, the HP Run Results Viewer installation is performed in the background. Therefore, it may take some time before the Additional Installation Requirements screen opens.

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In addition to options to configure Internet Explorer and DCOM settings, and to run the License Wizard, the Additional Installation Requirements screen displays any prerequisite software that must be installed or configured to work with UFT, according to the options selected during installation.

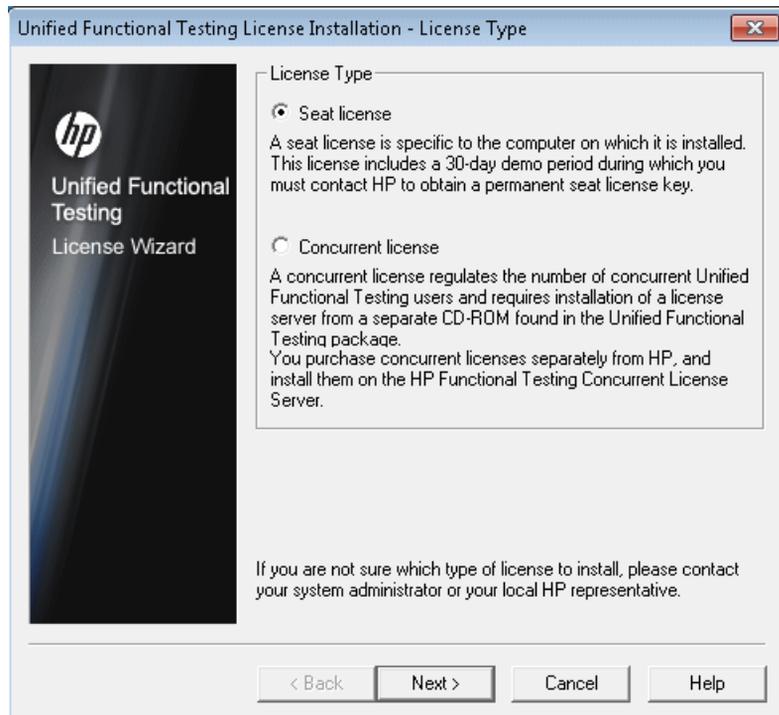
Select the required installation options. For more details on these options, see "Working with the Additional Installation Requirements Utility" on page 35.

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**Tip:** Select an option name to display a description of the feature.

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- 12** Click **Run** in the Additional Installation Requirements screen to install or configure your selections.
- 13** If you selected to run the **License Installation Wizard**, the Unified Functional Testing License Installation - License Type screen opens.



Select a license type. (For details on the process required to set up various license types, see "Understanding the UFT Setup for Different License Types" on page 20. For details on working with licenses, see "Working with UFT Licenses" on page 65.)

- ▶ **Seat license.** Uses a license created for this computer.

A seat license is a permanent license that is specific to the computer on which the license is installed. When you select this option, you also get a 30-day demo period during which you must request a permanent seat license key from the HP Webware License Key Delivery Service. After you receive the seat license key, you can activate the license to work with UFT permanently. For more details, see "Requesting a Seat License Key" on page 67.

If you select **Seat license**, proceed to step 14 on page 33.

- ▶ **Concurrent license.** Uses a network-based license.

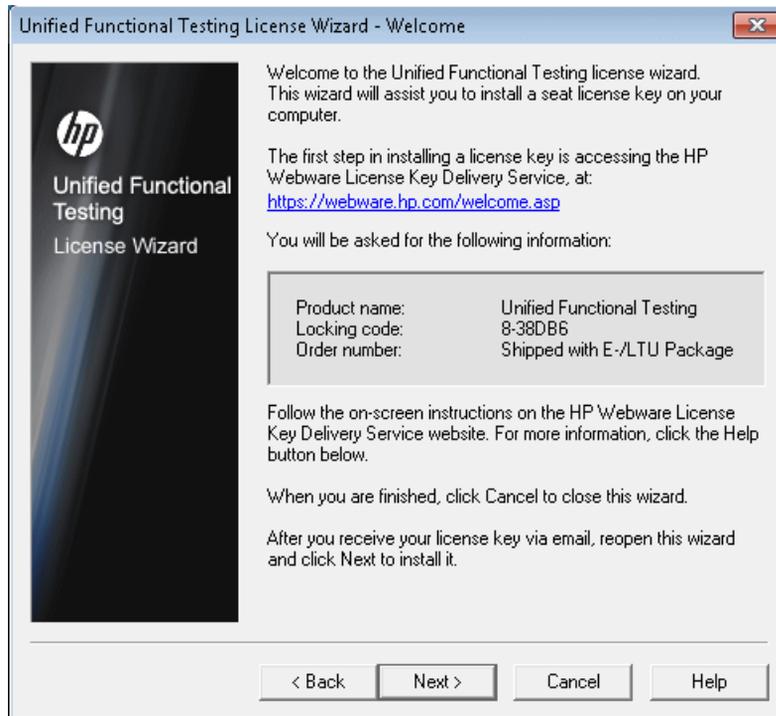
A license server on the network regulates the number of concurrent UFT users. You can work with a concurrent license only if a concurrent license server is installed on your local network, and that license server has at least one available license that is not currently in use.

Click **Next** to open the License Installation - Concurrent License Server dialog box and, if you know the name of the concurrent license server to which you want to connect, you can specify the server in the text box. You can click **Check Connection** to verify that the license server is accessible from your network.

If you select this option but do not specify a concurrent license server, UFT tries to locate one for you when you open UFT.

For more details, see the *HP Functional Testing Concurrent License Server Installation Guide*.

- 14** If you chose to install UFT with a seat license, the Unified Functional Testing License Installation - Welcome screen opens.

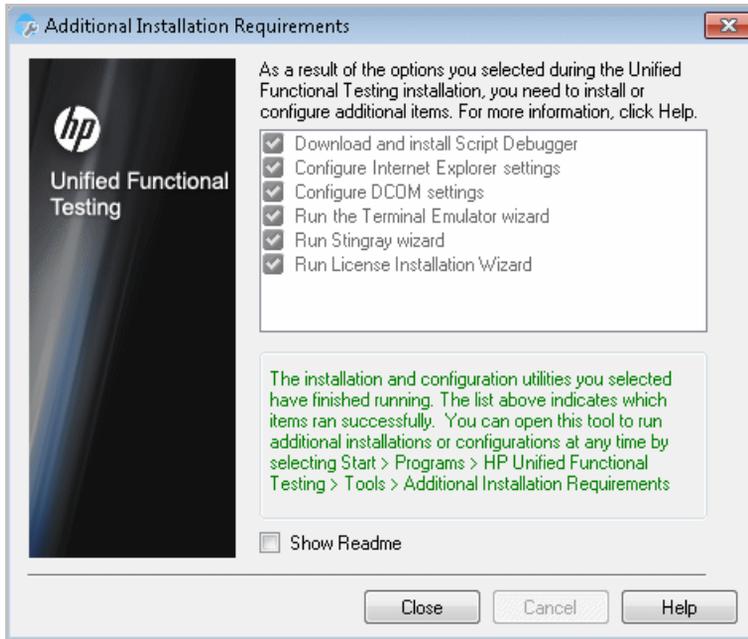


If you have a seat license key, proceed to step 3 on page 73 to install the seat license key.

If you do not have a license key, make a record of the displayed locking code for your computer. You will need the locking code to request your license key. Click the link on the Unified Functional Testing License Installation - Welcome screen for the **HP Webware License Key Delivery Service** to request your license key. Follow the instructions as described in "Requesting a License Key via the HP Webware License Key Delivery Service" on page 68 and then click **Cancel**. (You will be prompted to install the seat license when you open UFT.)

- 15 The installation continues with installing the options you selected in the Additional Installation Requirements screen. When these options are installed and configured on your computer, the screen reopens.

A checkmark is displayed next to the options that were successfully installed or configured.



---

**Tip:** You can run the Additional Installation Requirements utility at any time by choosing **Start > All Programs > HP Software > HP Unified Functional Testing > Tools > Additional Installation Requirements**.

---

- 16 Click **Show Readme** if you want the *HP Unified Functional Testing Readme* to open at the end of the installation.
- 17 Click **Close**. The Installation Complete screen opens.

**18 Click Finish.**

---

**Note:** In some situations, you may be prompted to restart your computer after you have installed UFT. It is recommended that you restart your computer as soon as possible if you are prompted to do so. Delaying the system restart may result in unexpected UFT behavior.

---

## **Working with the Additional Installation Requirements Utility**

Several prerequisites for working with UFT must be installed and configured after UFT is installed. In addition, to take advantage of UFT debugging and remote access features, certain Internet Explorer and DCOM settings need to be configured.

The Additional Installation Requirements screen displays any prerequisite software that must be installed or configured to work with UFT, according to the options selected when UFT is installed or the installation is modified. For more information, see "Additional Installation Prerequisites" on page 36.

The Additional Installation Requirements utility enables you to configure the required settings automatically, and to run the License Installation Wizard and Microsoft Debugger installation during the UFT installation.

- ▶ Select an option name in the Additional Installation Requirements dialog box to display a description of the feature.
- ▶ Select the check box of one or more required options and click **Run**.

You can run the Additional Installation Requirements utility at any time by choosing **Start > All Programs > HP Software > HP Unified Functional Testing > Tools > Additional Installation Requirements**. In addition to the options to configure Internet Explorer and DCOM settings, and to run the License Wizard, the dialog box displays any prerequisite software that is still required to be installed to work with UFT.

## Additional Installation Prerequisites

Additional installation requirements listed in the Additional Installation Requirements dialog box can include the following, according to the options selected when UFT is installed or the installation is modified:

- ▶ **Microsoft Script Debugger.** Provides the debugging environment that UFT uses during test runs. This item is displayed only when not currently installed.
- ▶ **Terminal Emulator Wizard.** Provides a wizard that enables you to configure terminal emulator identifying settings. This item is displayed only when the Terminal Emulator (TE) Add-in is installed.
- ▶ **Stingray Wizard.** Provides a wizard that enables you configure UFT to work with your Stingray application. This item is displayed only when the Stingray Add-in is installed.

---

**Note:** The Web Services Add-in is supported for backwards compatibility only and is not enabled by default. New tests and components can use HP's API testing solution for web service testing purposes. To enable the Web Services Add-in for previously created tests, contact HP Software support.

---

In addition, the Additional Installation Requirements utility enables you to perform the following:

- ▶ **Configure Internet Explorer settings.** Select this check box to automatically configure the Internet Explorer options that enable UFT to use the Microsoft Script Debugger application during test runs.  
You can configure these options manually before running UFT. In Internet Explorer, select **Tools > Internet Options > Advanced**. Then select **Disable script debugging** and **Enable third-party browser extensions**.
- ▶ **Configure DCOM settings.** Select this check box to automatically change DCOM permissions and security settings and open a firewall port on your UFT computer.

These changes are only required if you want to run UFT tests remotely from ALM, and are running UFT on Windows XP Service Pack 2 or later, Windows 2003 Server, Windows Vista, or Windows 7.

For more information about the changes that UFT makes when you choose to set these options automatically, see the steps described in "Modifying DCOM Permissions Manually to Enable Remote UFT Execution" on page 38.

If you choose not to automatically set remote execution options during the UFT installation, you can, before attempting to remotely run UFT tests from ALM:

- ▶ Run the Additional Installation Requirements utility at a later time from **Start > All Programs > HP Software > HP Unified Functional Testing > Tools > Additional Installation Requirements**.
- ▶ Make the required changes manually. For more information on making these changes manually, see "Modifying DCOM Permissions Manually to Enable Remote UFT Execution" on page 38.
- ▶ Make the required changes automatically, by running the Remote Agent <**Unified Functional Testing installation**>\bin\AQTRmtAgent.exe at a later time.

---

**Note:** Contact Microsoft Support if you have questions regarding changes in DCOM securities on Windows XP Service Pack 2 or later, Windows 2003 Server, or Windows Vista.

---

- ▶ **Run License Installation Wizard.** Select this check box to run the Unified Functional Testing License Wizard. If you want to run UFT using the demo license for up to 30 days, do not select this check box.

**Note:** This option is not automatically selected when upgrading from QuickTest Professional version 9.5 or later because license data is retained. If you did not install a license before the upgrade, select this check box to run the Unified Functional Testing License Wizard.

---

## **Modifying DCOM Permissions Manually to Enable Remote UFT Execution**

This section describes how to manually change DCOM permissions and open firewall ports to enable remote execution of UFT. These changes are only required if you are running UFT on Windows XP Service Pack 2, Windows 2003 Server Service Pack 1 or later, Windows Vista, or Windows 7.

If you chose to automatically make these changes during the UFT installation, you do not need to make these manual changes. If you do not intend to execute UFT tests remotely from ALM, you do not need to make these manual changes.

---

**Note:** The security changes described in this section should be performed by your System Administrator. Please contact Microsoft Support if you have questions regarding changes in DCOM securities on Windows XP Service Pack 2, Windows 2003 Server Service Pack 1 or later, or Windows Vista.

---

---

**Tip:** The HP Support Knowledge Base provides utilities to assist you in making these changes. For more details, see the HP Software Self-solve knowledge base (<http://h20230.www2.hp.com/selfsolve/document/KM196144>) and search for Problem ID 43245. The Knowledge Base area requires that you register as an HP Passport user and sign in.

---

To manually enable remote execution of UFT, perform the following procedures:

- Enable Windows to authenticate the remote user (described on page 40)
- Configure the Windows Firewall to enable port 135 for DCOM (described on page 40)
- Modify DCOM security properties (described on page 41)
- Configure security settings for the Unified Functional Testing Remote Agent DCOM applications (described on page 43)
- Enable COM+ Access

In addition, before remotely running a test you must also make sure that the **Allow other HP products to run tests and components** option is selected in the **Run Sessions** pane (**Tools > Options > General** tab > **Run Sessions** node) of the UFT Options dialog box. For more details, see the *HP Unified Functional Testing User Guide*.

**To enable Windows to authenticate the remote user:**

- 1** Add both computers to the same domain.
- 2** For domain users logged into both computers, add these domain users to the Local Administrators group on the UFT computer. This enables Windows to authenticate the remote user executing the tests against the DCOM objects.

**To configure the Windows Firewall to enable port 135 for DCOM:**

---

**Note:** If you disabled the firewall installed with Windows XP Service Pack 2, Windows 2003 Server, or Windows Vista, you do not need to open port 135 for DCOM, as described in this procedure.

---

- 1** On the UFT computer, select **Control Panel > System and Security > Windows Firewall**. The Windows Firewall options open.
- 2** Select the **Allow a program or feature through Windows Firewall** option on the left sidebar.
- 3** Click **Allow another program**. The Add a Program dialog box opens.
- 4** Select or browse to the Remote Agent (<**Unified Functional Testing installation**>\bin\AQTRmtAgent.exe) and click **OK**.

---

**Note:** If you do not configure the Remote Agent as an exception as described above, a Windows Security Alert message will display while running a test remotely. Click **Unblock** to solve this problem. The next time you remotely execute an automated test, the warning does not display.

---

- 5 Click **OK** to close the Windows Firewall dialog box.

---

**Note:** For more details, a list of port assignments for commonly-used services can be found at: <http://technet.microsoft.com/en-us/library/cc959833.aspx>.

---

**To modify DCOM security properties:**

- 1 Select **Start > Run**, type **dcomcnfg**, and press **ENTER**. The Component Services window opens.
- 2 Navigate to **Console Root > Component Services > Computers > My Computer**.

---

**Note:** If a Windows Security Alert message opens, click **Ask me later** or **Unblock**.

---

- 3 Right-click **My Computer** and select **Properties**.
- 4 Select the **Default Properties** tab.
- 5 Make sure the **Default Impersonation Level** is **Identify** and click **Apply**.
- 6 Select the **COM Security** tab.
- 7 In the Access Permissions area, click **Edit Limits**. The Access Permission dialog box opens.
- 8 Click **Add**. The Select Users or Groups dialog box opens.
- 9 Click **Advanced**.
- 10 Click **Locations**. In the displayed dialog box, select your computer name and click **OK**.
- 11 Click **Find Now**.

- 12** Select the following users and groups from the local computer and click **OK**:
  - Administrator
  - Administrators
  - Authenticated Users
  - Anonymous Logon
  - Everyone
  - Interactive
  - Network
  - System
  
- 13** Add the following users from the domain and click **OK**:
  - <domain user logged into the UFT computer>
  - <domain user logged into the ALM computer that is performing the remote execution>
  
- 14** In the Access Permission dialog box, assign **Local Access** and **Remote Access** permissions to the groups and users in the list and click **OK**.
  
- 15** In the Launch and Activation Permissions area, click **Edit Limits**. The Launch Permission dialog box opens.
  
- 16** Repeat steps 8 to 13.
  
- 17** In the Access Permission dialog box, assign **Local Launch**, **Remote Launch**, **Local Activation**, and **Remote Activation** permissions to the groups and users in the list and click **OK**.

**To configure security settings for the Unified Functional Testing Remote Agent DCOM applications:**

- 1** In the Component Services window, navigate to **Console Root > Component Services > Computers > My Computer > DCOM Config**.
- 2** Right-click the **AQTRmtAgent** item and select **Properties**. The AQTRmtAgent Properties dialog box opens.
- 3** In the Identity tab, select **The interactive user**. This enables the DCOM application to authenticate the process against the logged-in Windows user and run the process in that security context.
- 4** Select the **Security** tab.
- 5** In the Launch and Activation Permissions area, select **Customize** and click **Edit**. The Launch Permission dialog box opens.
- 6** Click **Add**. The Select Users or Groups dialog box opens.
- 7** Click **Advanced**.
- 8** Click **Locations**. In the displayed dialog box, select your computer name and click **OK**.
- 9** Click **Find Now**.
- 10** Select the following users and groups from the local computer and click **OK**:
  - Administrator
  - Administrators
  - Authenticated Users
  - Anonymous Logon
  - Everyone
  - Interactive
  - Network
  - System

- 11** Add the following users from the domain and click **OK**:
  - ▶ <domain user logged into the UFT computer>
  - ▶ <domain user logged into the ALM computer that is performing the remote execution>
- 12** In the Launch Permission dialog box, for all the groups and users in the list, select **Allow** for all permissions and click **OK**.
- 13** In the Access Permissions area, select **Customize** and click **Edit**. The Access Permission dialog box opens.
- 14** Repeat steps 6 to 12.
- 15** Click **Apply** to save the changes and click **OK** to close the dialog box.
- 16** Close the Component Services window.

**To enable COM+ on a Windows 2008 server:**

- 1** Open the Server Manager.
- 2** Install the **COM+ Network Access** feature in the **Application Server** role.

**To enable COM+ on a Windows 2003 server:**

- 1** Select **Start > Control Panel > Add or Remove Programs**.
- 2** Click **Add/Remove Windows Components**.
- 3** Select **Application Server**, and click **Details**.
- 4** Select **Enable network COM+ access**, and click **OK**.
- 5** Click **Next** and then **Finish**.
- 6** Restart the computer.

You can now remotely execute a UFT test from ALM.

**Note:** Before remotely running a test, you must also make sure that the **Allow other HP products to run tests and components** option is selected in the **Run Sessions (Tools > Options > General tab > Run Sessions node)** pane of the UFT Options dialog box. For more details, see the *HP Unified Functional Testing User Guide*.

---

### **Modifying User Account Control Settings to Connect with ALM (Windows Vista, Windows 7, Windows Server 2008, and Windows Server 2008 R2)**

If you are running UFT on Windows Vista, Windows 7, Server 2008, or Server 2008 R2, you must disable User Account Control (UAC) and restart your computer before you connect with ALM for the first time. After you have connected with ALM for the first time, you can enable User Account Control (UAC) again if required.

This change is required only if you are running UFT on one of the operating systems listed above. If you do not intend to execute UFT tests remotely from ALM, you do not need to make these changes.

---

**Note:** The security changes described in this section should be performed by your System Administrator. Please contact Microsoft Support if you have questions regarding changes in User Account Control (UAC) on any of these operating systems.

---

To temporarily turn off the UAC option, do the following:

**For Microsoft Windows Vista and Windows Server 2008:**

- 1** Log in as an administrator.
- 2** From the Control Panel, select **User Accounts > Change Security Settings**, and clear the **Use User Account Control (UAC) to help protect your computer** check box.
- 3** Restart the computer to enable this setting to take effect.

**For Microsoft Windows 7 and Windows Server 2008 R2:**

- 1** Log in as an administrator.
- 2** From the Control Panel, select **User Accounts > User Accounts > Change User Account Settings**.
- 3** In the User Account Control Settings window, move the slider to **Never notify**.
- 4** Restart the computer to enable this setting to take effect.

## Unified Functional Testing Setup Window Options

The Unified Functional Testing Setup window contains the following options:

Option	Description
<b>Unified Functional Testing Professional Setup</b>	Starts the UFT Setup program.
<b>Installation Guide</b>	Opens a PDF copy of the <i>HP Unified Functional Testing Installation Guide</i> , which is suitable for printing. To download Adobe, Reader click <b>Download Adobe Reader</b> .
<b>Readme</b>	Opens the Readme file.
<b>Unified Functional Testing Add-in for ALM Setup</b>	<p>Enables features in the ALM client installed on your computer.</p> <p>If you do not install the <b>Unified Functional Testing Add-in for ALM</b>, you can perform only the following UFT operations in ALM:</p> <ul style="list-style-type: none"> <li>▶ Running tests remotely.</li> <li>▶ Configuring test execution parameters.</li> </ul> <p>To perform any other operations on UFT assets in ALM, you must install the <b>Unified Functional Testing Add-in for ALM</b>. For example, the add-in enables you to:</p> <ul style="list-style-type: none"> <li>▶ View test and component scripts from ALM.</li> <li>▶ View run results in the Run Results window from ALM.</li> <li>▶ Create new tests and components from ALM.</li> <li>▶ Perform other operations in ALM that involve UFT user interface elements.</li> </ul> <p>For additional details on the Unified Functional Testing Add-in for ALM, or to download the latest version of the add-in, see the UFT Add-in screen in ALM (<b>Help &gt; Add-ins Page &gt; More HP ALM Add-ins &gt; Unified Functional Testing Add-in</b>).</p> <p><b>Note:</b> You can install the Add-in for ALM with all currently supported versions of Quality Center. For a list of supported versions, see the <i>HP Unified Functional Testing Product Availability Matrix</i>, available from the UFT Help home page or the root folder of the UFT DVD.</p>

Option	Description
<b>Add-in Extensibility and Web 2.0 Toolkits</b>	Enables you to install the following: <ul style="list-style-type: none"> <li>▶ Unified Functional Testing Java Add-in Extensibility SDK</li> <li>▶ Unified Functional Testing .NET Add-in Extensibility SDK</li> <li>▶ Unified Functional Testing WPF and Silverlight Add-in Extensibility SDK</li> <li>▶ Extensibility Accelerator for Functional Testing (includes Web Add-in Extensibility SDK)</li> <li>▶ Web 2.0 Toolkit Support</li> </ul>
<b>License Server Setup</b>	Enables you to install the HP Functional Testing Concurrent License Server or a concurrent license on the server. From the dialog box that opens you can also open a PDF copy of the <i>HP Functional Testing Concurrent License Server Installation Guide</i> .
<b>Run Results Viewer Setup</b>	Enables you to install the Run Results Viewer on your computer.
<b>Download Adobe Reader.</b>	Downloads Adobe Reader.
<b>Contact HP</b>	Opens the Enterprise software page on the HP Web site ( <a href="http://www8.hp.com/us/en/software/enterprise-software.html?jumpid=ex_r11374_us/en/large/eb/go_software">http://www8.hp.com/us/en/software/enterprise-software.html?jumpid=ex_r11374_us/en/large/eb/go_software</a> ). Click <b>Contact us</b> in the upper right corner.
<b>Support</b>	Opens the HP Software Support Web site ( <a href="http://support.openview.hp.com/">http://support.openview.hp.com/</a> ).
<b>Browse DVD</b>	Enables you to view the contents of the Unified Functional Testing DVD.

## Included Utilities and Features

The utilities, features, and information that were available in the **QuickTest Professional Plus Toolkit** in previous versions of QuickTest have been incorporated into the main UFT application. These include:

- ▶ Code and SDK samples, which can now be installed by selecting **Samples** in the Select Features screen during the UFT custom installation. For more details, see step 8 on page 27.
- ▶ Object repository merge functionality, which is now available in the UFT GUI Testing Object Repository Merge Tool.

- ▶ External Action Call Modification utility, which is now handled by the UFT Errors pane.
- ▶ The Register Browser Control utility.
- ▶ The License Validation utility.

For more details about these utilities and features, and answers to frequently asked questions, see the *HP Unified Functional Testing User Guide* and the *HP Software Self-solve knowledge base* (<http://www.hp.com/go/hpsoftwaresupport>), available by clicking **Support** on the UFT Setup window.

## Browsing the UFT Program Folder

After the UFT setup process is complete, a number of items are added to your UFT program folder (**Start > All Programs > HP Software > HP Unified Functional Testing**).

For a description of each of these items, see the *HP Unified Functional Testing User Guide*.

---

**Note:** If you uninstalled a previous version of QuickTest Professional before installing this version, you may have additional (outdated) items in your UFT program folder. In addition, if you have UFT add-ins installed, you may have items in your program folder that relate specifically to these add-ins.

---

## Setting Up a Silent Installation

A *silent installation* (or *quiet installation*) is an installation that is performed in the background. You can install UFT, UFT Add-ins, and the ALM Add-in silently on your computer, without the need to navigate through setup screens or for user interaction. You can also install UFT, UFT Add-ins, and the ALM Add-in on remote computers.

For more details, see:

- ▶ "Before You Install UFT Silently" on page 50
- ▶ "Installing UFT Silently" on page 53
- ▶ "Installing the UFT Add-in for ALM Silently" on page 57

### Before You Install UFT Silently

You must have administrator privileges to install UFT and the ALM Add-in. (You also need administrator rights for any other installation tasks, for example, uninstalling UFT, repairing or modifying the installation, or installing a patch.)

The following sections list the prerequisite software that must be installed on your computer before running a silent installation of UFT and UFT Add-ins.

## Prerequisite Software for UFT and the UFT Add-ins

The following prerequisite software is required to be installed on your computer before you install UFT and UFT Add-ins. This software is available on the UFT installation DVD, and can be installed from the command line.

Prerequisite	Silent Command Line Syntax
<b>.NET Framework v4</b>	DVD\prerequisites\dotnet40\dotnetfx40.exe/q /norestart/c:"install / q" /LCID
<b>Microsoft Office Access database engine 2007</b>	DVD\Unified Functional Testing\prerequisites\msade2007\AccessDatabaseEngine.exe/ quiet
<b>Microsoft WSE 2.0 SP3 Runtime</b>	DVD\Unified Functional Testing\prerequisites\wse20sp3\MicrosoftWSE2.0SPERuntime.msi/ quiet /norestart
<b>Microsoft WSE 3.0 Runtime</b>	DVD\Unified Functional Testing\prerequisites\wse30\MicrosoftWSE3.0Runtime.msi/ quiet /norestart
<b>Visual Studio Tools for the Office System 3.0 Runtime</b>	DVD\Unified Functional Testing\prerequisites\vstor30\vstor30.exe/ q
<b>Microsoft Visual C++ Run-time Components</b>	DVD\Unified Functional Testing\prerequisites\vc_2010_redist\vc_redist_x86.exe/ q /norestart
<b>Microsoft Visual C++ 2008 Run-time Components</b>	DVD\Unified Functional Testing\prerequisites\vc2008_sp1_redist__V9030729\vc_redist_x86.exe/ q /norestart
<b>Microsoft Visual C++ 2010 Redistributable</b>	DVD\Unified Functional Testing\prerequisites\vc2010_redist\vc_redist_x86.exe/ q

## Prerequisite Software for ALM

The following prerequisite software is required to be installed on your computer before you install the ALM Add-in. This software is available on the ALM installation DVD, and can be installed from the command line.

Prerequisite	Command Line Syntax
<b>Windows Installer 3.1</b>	DVD\Unified Functional Testing\EN\prerequisites\msi31\WindowsInstaller-KB893803-v2-x86.exe / q /norestart
<b>Microsoft .NET Framework 3.5 Service Pack 1</b>	DVD\Unified Functional Testing\prerequisites\dotnet35_sp1\dotnetfx35_sp1.exe / qb /
<b>Windows Imaging Component</b>	DVD\Unified Functional Testing\prerequisites\dotnet40\wic_x86_enu.exe/ q /norestart
<b>Microsoft Visual C++ 2005 SP1 Run-time Components</b>	DVD\Unified Functional Testing\prerequisites\vc2005_sp1_redist\vc redistrib_x86.exe / q:a /c: "VCREDI~3.EXE /q:a /c: "msiexec / i vc redistrib.mis / qn" "

---

**Caution:** The prerequisite software must be installed locally, even if the silent installation is performed remotely. You can begin the silent installation only after all the required prerequisite software is installed.

---

## Installing UFT Silently

This section describes how to install the following UFT features silently on your computer:

- UFT
- UFT Add-ins
- Additional Installation Requirements

If you want to install the Unified Functional Testing Add-in for ALM, see "Installing the UFT Add-in for ALM Silently" on page 57.

---

**Note:** You can use most standard MSI command line options when installing UFT from the command line. For more details about performing a silent, or quiet, MSI installation, see the relevant Microsoft documentation.

---

### Prerequisites

- 1** It is recommended to save any open files and close all open applications before running the silent installation.
- 2** Install the prerequisite software for UFT. For the full list of prerequisite software, see "Before You Install UFT Silently" on page 50. You can begin the silent installation only after all the required prerequisite software is installed.

---

**Caution:** The prerequisite software must be installed locally, even if the silent installation is performed remotely. You can begin the silent installation only after all the required prerequisite software is installed.

---

### **Performing a standard installation of UFT, UFT Add-ins, and Additional Installation Requirements silently**

In the command line, run the **UFTSilentInstaller.bat** file, which performs **msiexec.exe** commands to install UFT, using the following format:

```
<UFT_DVD_PATH>\UFTSilentInstaller  
ConcurrentLicenseServer [MsiProperties] [MsiFlags]
```

---

**Note:** If you do not specify an installation folder, UFT is installed in the default installation folder.

---

For a description of the silent installation commands, see "Silent installation commands" on page 58.

### **Specifying which UFT features to install**

You can use the **ADDLOCAL MSI** property in the silent installation command line to specify the UFT features and add-ins that you want to install. If you want to install only the UFT core components, you do not need to use this option.

If you use this command, the following mandatory options must be included:

- **Core\_Components** (parent: Unified\_Functional\_Testing)
  - **Test\_Results\_Viewer** (parent: Unified\_Functional\_Testing)
  - **Samples** (parent: Unified\_Functional\_Testing)
  - **Web\_Add-in**
- 

**Note:** When installing a feature using the **ADDLOCAL** property, its parent always gets installed as well.

---

In addition to the mandatory options, you can install the following UFT features and add-ins:

- .Net\_Add-in
- ActiveX\_Add-in
- Delphi\_Add-in
- Flex\_Add-in
- Java\_Add-in
- Oracle\_Add-in
- PeopleSoft\_Add-in
- PowerBuilder\_Add-in
- Qt\_Add-in
- SAP\_Solutions\_Add-in
- SAP\_eCATT\_integration (parent: SAP\_Solutions\_Add-in)
- Samples
- Siebel\_Add-in
- Stingray\_Add-in
- TE\_Add-in
- VisualAge\_Add-in
- Visual\_Basic\_Add-in

### Examples of the UFT core silent installation

The following examples illustrate the different silent installation options, depending on whether upgrading or performing a complete installation.

#### Standard installation:

```
UFTSilentInstaller UFTLicServer "TARGETDIR=C:\Progra-1\UFT"
/*vx C:\Temp\UFTInstall.log
```

#### Standard installation with the Java Add-in:

```
UFTSilentInstaller UFTLicServer
"ADDLOCAL=Core_Components,Test_Results_Viewer,UFT_Mandatory, Samples,
Web_Add-in,Java_Add-in" "TARGETDIR=<UFT_Folder>"
```

### Additional installation requirements limitations

- The following additional installation prerequisites are not installed when using silent installation:

Prerequisite	Related Add-in
Terminal Emulator Wizard	Terminal Emulator
Stingray Wizard	Stingray

You must manually install these prerequisites using Additional Installation Requirements Utility. For details on installing additional requirements, "Working with the Additional Installation Requirements Utility" on page 35.

- The UFT Add-in for ALM is installed using a separate silent installation. For details, see "Installing the UFT Add-in for ALM Silently" on page 57.

## Installing the UFT Add-in for ALM Silently

You can use the silent installation mechanism to install the UFT Add-in for ALM. Unlike the UFT core silent installation (described in "Installing UFT Silently" on page 53), you perform a silent installation of the ALM Add-in by directly entering `msiexec.exe` commands in the command line.

### Installing the UFT Add-in for ALM silently

- 1 It is recommended to save any open files and close all open applications before running the silent installation.
- 2 Run the appropriate Microsoft MSI installation from the command line, using one of the following formats:
  - **New installation** (any previous versions have already been uninstalled):

```
msiexec /i "<UFT_DVD_Path>\ALMPlugin\MSI\<ALM_Plugin_File>" /
qn
```

For a description of the silent installation commands, see "Silent installation commands" on page 58.

### Examples of the UFT Add-in for ALM silent installation

The following examples illustrate the different silent installation options, depending on whether upgrading or performing a complete installation:

#### Standard installation:

```
msiexec /i "<UFT_DVD_Path\ALMPlugin\MSI>
Unified_Functional_Testing_Add-in_for_ALM.msi" /qn
```

Or:

```
msiexec /qn /i "<UFT_DVD_Path\ALMPlugin\MSI>\
Unified_Functional_Testing_Add-in_for_ALM.msi"
```

## Silent installation commands

The following table lists commands, arguments, and options used for silent installation (in alphabetical order):

Command / Argument	Description
<b>ADDLOCAL</b> (UFT core installation only)	Optional. Instructs the silent installation to install specific UFT features and add-ins. For more details and a list of available features, see "Specifying which UFT features to install" on page 54. <b>Note:</b> <ul style="list-style-type: none"> <li>▶ If you do not use this argument, UFT is installed with the default add-ins.</li> <li>▶ You must include <b>Test_Results_Viewer</b>, <b>Web_Add-in</b>, <b>Samples</b>, and <b>Core_Components</b> in the <b>ADDLOCAL</b> command.</li> <li>▶ Values must be separated by commas and must not contain spaces.</li> </ul>
<b>ConcurrentLicenseServer</b>	Mandatory. The name or IP address of the license server to specify when installing UFT licenses.
<b>MsiFlags</b>	Optional. Any MSI options, flags, and other instructions that are not included in the <b>MsiProperties</b> arguments, such as logging commands.
<b>MsiProperties</b>	Optional. Any MSI properties or parameters, such as TARGETDIR. Each MSI property and its definition must be contained in quotes (") and must not contain spaces.
<b>ALM_Plugin_File</b> (UFT Add-in for ALM installation only)	Mandatory. The name of the MSI installation file. <b>Note:</b> There is a different MSI file for each available language.
<b>UFT_DVD_Path</b>	The path to the UFT Installation DVD or network location. The UFT <b>.bat</b> file is located on the installation DVD in the root folder.
<b>UFTSilentInstaller</b>	The name of the UFT silent installation <b>.bat</b> file.

For details on silent installation, see:

- "Installing UFT Silently" on page 53
- "Installing the UFT Add-in for ALM Silently" on page 57

## Unified Functional Testing User Interface Pack Installation

The Unified Functional Testing User Interface Pack enables you to view the UFT, Run Results Viewer, and UFT Add-in for ALM program user interface in your local language. You install the User Interface Pack from the <Language> User Interface Pack CD-ROM.

The User Interface Pack installation also enables you to install a localized version of the Functional Testing Concurrent License Server.

This section includes:

- "Prerequisites for the UFT User Interface Pack Installation" on page 59
- "Installing the Unified Functional Testing User Interface Pack" on page 60

### Prerequisites for the UFT User Interface Pack Installation

- You must have UFT installed before installing the User Interface Pack. For more details, see "Installing Unified Functional Testing" on page 23.
- If you are installing the UFT Add-in for ALM User Interface Pack, you must also have the UFT Add-in for ALM installed. For installation details, see "Unified Functional Testing Setup Window Options" on page 47.

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**Note:** If you are installing the Functional Testing Concurrent License Server (<Language> Edition), you do not need to first install the English edition of the Functional Testing Concurrent License Server.

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## Installing the Unified Functional Testing User Interface Pack

The following describes how to install a User Interface Pack for UFT, Run Results Viewer, and UFT Add-in for ALM, and how to install the localized Functional Testing Concurrent License Server.

### To install the User Interface Pack:

- 1 Make sure that the prerequisites are met, as described in "Prerequisites for the UFT User Interface Pack Installation" on page 59.
- 2 Insert the <Language> **User Interface Pack** CD into the CD-ROM drive. The **Unified Functional Testing <Language> User Interface Pack Setup** window opens.

---

**Note:** If the CD-ROM drive is on a network computer, map the network drive, navigate to the root folder of the mapped network path, and double-click **setup.exe**.

---

- 3 In the main **Unified Functional Testing <Language> User Interface Pack** setup window, do one or more of the following:
  - ▶ Click the **Unified Functional Testing User Interface Pack Setup** link and follow the on-screen instructions.

The <Language> **User Interface Pack** is installed in the <**Unified Functional Testing installation**> folder.
  - ▶ Click the **Run Results Viewer User Interface Pack Setup** link and follow the on-screen instructions.

The <Language> **User Interface Pack** is installed in the <**Run Results Viewer installation**> folder.
  - ▶ Click the **UFT Add-in for ALM User Interface Pack Setup** link and follow the on-screen instructions.

The <Language> **User Interface Pack** is installed in the <Unified Functional Testing Add-in for ALM installation> folder.

- ▶ Click the **Functional Testing License Server Setup (<Language> Edition)** link and follow the on-screen instructions.

The **Functional Testing License Server (<Language> Edition)** is installed in <Functional Testing License Server installation folder>.

## **Troubleshooting and Limitations - Installing UFT**

This section describes troubleshooting and limitations for installing UFT, and contains the following sections:

- ▶ "General" on page 61
- ▶ "Operating Systems" on page 61
- ▶ "User Interface Pack" on page 62

### **General**

UFT does not open successfully after you install the Unified Functional Testing Add-in for ALM or the Run Results Viewer.

**Workaround:** After installing the Add-in for ALM or the Run Results Viewer, repair the UFT installation.

### **Operating Systems**

The security settings in Windows Vista, Windows 7, Server 2008, or Server 2008 R2, may prevent you from performing a UFT-related installation, such as a patch installation, or connecting to a ALM project (either directly or from UFT). This can occur when the UAC (User Account Control) option is set to ON, and you have not yet connected to a ALM project (if relevant).

**Workaround:** You must turn off the UAC option before installation, as described in "Modifying User Account Control Settings to Connect with ALM (Windows Vista, Windows 7, Windows Server 2008, and Windows Server 2008 R2)" on page 45.

## User Interface Pack

- ▶ If you are working with a Unified Functional Testing User Interface Pack, install the User Interface Pack before running UFT for the first time, if possible.

If you install a Unified Functional Testing User Interface Pack after running UFT, the following items may remain in English after installing the User Interface Pack:

- ▶ Menus and toolbars in the Object Repository window (in UFT or in the Object Repository Manager)
- ▶ The Find dialog box in the Expert View

**Workaround:** Close UFT and delete the folder: %APPDATA%\HP\Unified Functional Testing

(For example, C:\Documents and Settings\\Application Data\HP\Unified Functional Testing).

- ▶ When working on an operating system using a Spanish locale, you may get an assertion error message at the beginning of the UFT installation.

**Workaround:** Modify the **sLanguage** registry key value as follows:

- a** In the **Start > Run** dialog box, type: **regedit**.
- b** Go to the registry path: **HKEY\_CURRENT\_USER\Control Panel\International**
- c** Change the **sLanguage** value from **ES** to **ESN**
- d** If the above steps do not solve the problem, restart your computer and try again.

Run the UFT installation again.

## Upgrading from QuickTest Professional

- When upgrading from QuickTest Professional 11.00 and installing UFT into the same directory as Quick Test, certain files will be missing from the installation.

**Workaround:** After the upgrade, run the UFT installation again and select the Repair Installation option.

- When upgrading from QuickTest Professional, the installation may repeatedly prompt you for confirmation to continue.

**Workaround:** Click **Continue** when prompted.



# 3

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## Working with UFT Licenses

You can install UFT using a *seat* license (formerly known as a local or standalone license) or a *concurrent* license (formerly known as a floating license).

### **This chapter includes:**

- ▶ Understanding UFT License Types on page 65
- ▶ Requesting a Seat License Key on page 67
- ▶ Installing a Seat License Key on page 70
- ▶ Working with a Concurrent License on page 76
- ▶ Modifying License Information on page 81
- ▶ Working with Commuter Licenses on page 83
- ▶ Validating UFT Licenses on page 96
- ▶ Troubleshooting Concurrent Licensing Issues on page 101

### **Understanding UFT License Types**

To use UFT, you must have a valid license. There are two types of licenses: seat and concurrent. The table below summarizes the differences between the two license types.

Topic	Seat License	Concurrent License
General description	The license is specific to the computer on which the license is installed.	Each license entitles the organization to one additional concurrent user.

Topic	Seat License	Concurrent License
Number of installations per license key	Each installation of UFT requires a distinct license key.	There is no limit to the number of UFT installations on the network, but a special concurrent license server regulates the number of computers that can run a copy of UFT at any time.
Other issues	<p>The license key is based partially on the locking code, which is a code that identifies the computer on which UFT is installed. The supplied license key works only for the computer on which the locking code was generated.</p> <p><b>Note:</b> A computer with multiple bootable partitions may generate a different locking code for each partition. If a different locking code is generated for a partition, you need to request a unique license key for it.</p>	<p>Not supported for Unix networks.</p> <p>It is recommended that the concurrent license server has a fixed IP address.</p> <p>UFT client computers must have TCP/IP installed.</p> <p>To use concurrent licenses across networks, UDP port 5093 must be open on the server.</p>
Entering license key	At the end of the installation procedure, UFT asks you to enter the license key. If you do not have a license key at that point, UFT asks you to enter the key the first time you open UFT.	Each time UFT opens, it automatically searches the same subnet for the concurrent license server. You do not need to enter a license key for your UFT client installation.

You can view and copy license information and license validation information, if needed. For example, you may want to retrieve license information for administrative or troubleshooting purposes. For more details, see "Validating UFT Licenses" on page 96.

## Requesting a Seat License Key

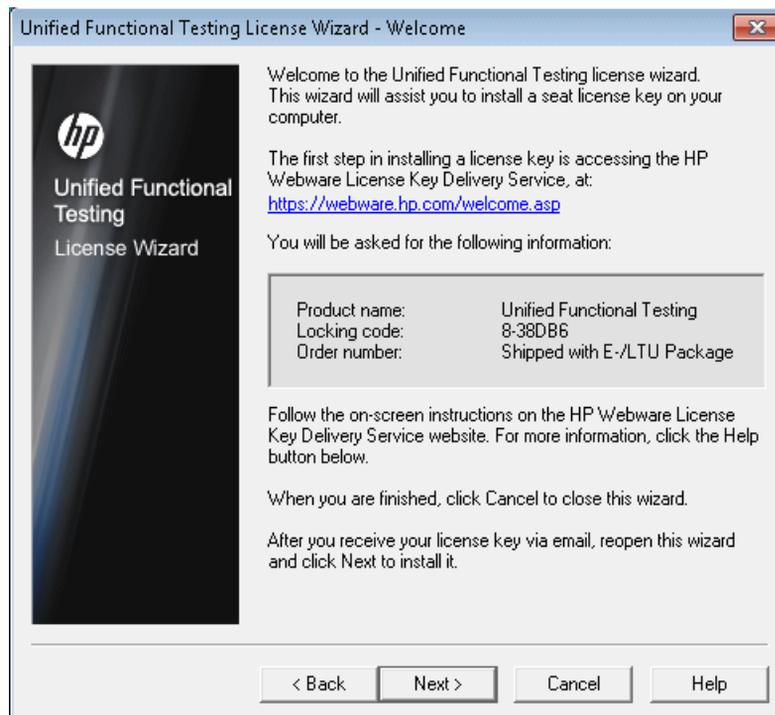
When you install UFT with a seat license for the first time, it includes a 30-day demo license. To use UFT beyond the 30-day period, you must request and activate a license key for your copy of UFT.

**To request a seat license key:**

**1** Perform one of the following:

- ▶ From the license warning message displayed when you start UFT, click **Install License**.
- ▶ From within UFT, select **Help > License Wizard**. The Unified Functional Testing License Wizard dialog box opens.

Select **Seat license** and click **Next**. Click **Yes** to install a new license key. The Welcome screen opens.



- 2 Make a record of the displayed locking code for your computer. You will need the locking code to request your license key. Click the link on the Unified Functional Testing License Installation - Welcome screen for the **HP Webware License Key Delivery Service** to request your license key. Follow the instructions as described in "Requesting a License Key via the HP Webware License Key Delivery Service" on page 68.

## **Requesting a License Key via the HP Webware License Key Delivery Service**

The HP Webware License Key Delivery Service assists you in requesting a license key. This procedure provides an overview of this process as it specifically relates to requesting UFT license keys.

For details on the individual fields in the License Key Delivery Service form, download the ESD and Webware License Management Guide. (Click the **Webware User Guide** link in the **Support** section of the HP License Key Delivery Service Welcome page.)

### **To request a license key:**

- 1 Click the link on the UFT License Installation - Welcome screen for the **HP Webware License Key Delivery Service**. The HP License Key Delivery Service Welcome page is displayed.
- 2 Click **Generate New Licenses**. The Generate license(s) page is displayed.
- 3 Enter the order number from the Software Entitlement Certificate you received in your LTU or ELTU package.
- 4 Click **Next**. The Product Selection page is displayed.
- 5 Select the check box next to the product for which you are requesting a license key.
- 6 Click **Next**. The Order Product Detail(s) page is displayed.
- 7 Enter the locking code for your computer. The locking code is found in the UFT License Installation - Welcome screen.
- 8 Click **Next**. The Member sign-in page is displayed.
- 9 If you have used the Webware Licensing service before, enter your e-mail address and password. Otherwise, login as a new user.

- 10** Click **Sign-in**. The Address information page is displayed. If you are a returning user, Webware automatically populates the fields with your information. If you are a new user, fill in the information according to the on-screen instruction. For information on filling in the Address information page, see the ESD and Webware License Management Guide.
- 11** If you are a customer representative requesting a license key on behalf of a customer and do not want them to receive a copy of the transaction, deselect the **E-mail a copy of this license transaction to the license owner** check box.
- 12** If you are the end-user customer select the **I am the License owner** check box. The **License owner (End-user) information** section is disabled.
- 13** If you are a customer representative requesting a license key on behalf of a customer, deselect the **I am the License owner** check box. Complete the information requested in the **License owner (End-User) information** section.
- 14** Click **Next**. The License/Password page is displayed. Keep a record of your **Session ID** and click **Main Menu** to return to the Welcome page. A Permanent Password Certificate will be e-mailed to the address you provided, containing your license key.
- 15** Click **Cancel** and wait for your Permanent Password Certificate to arrive by e-mail. When the certificate arrives, follow the instructions as described in "Installing a Seat License Key" on page 70.

## Installing a Seat License Key

In the License Key screen, you enter the license key you received from HP. The license key is included in the **.dat** file attached to the e-mail containing your Permanent Password Certificate.

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### Caution:

- ▶ You must have Administrator privileges to install a license key.
  - ▶ After installing the seat license key, do not change your computer's date or time. This triggers a **Clock Tamper** lock on the license information, preventing you from using the license.
- 

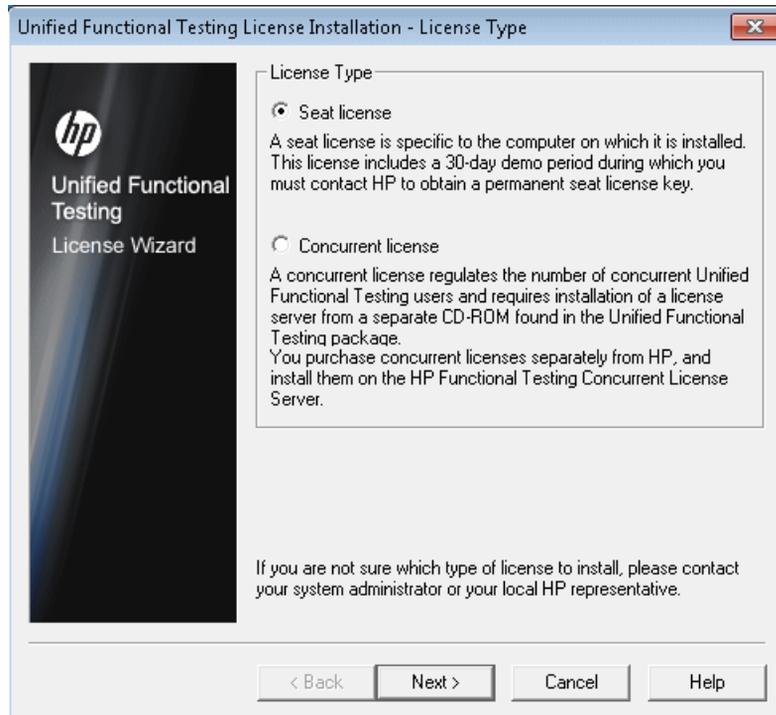
### To install a seat license key:

- 1 Perform one of the following:
    - ▶ From the warning message displayed when you start UFT, click **Install License**.
    - ▶ From within UFT, select **Help > License Wizard**.
- 

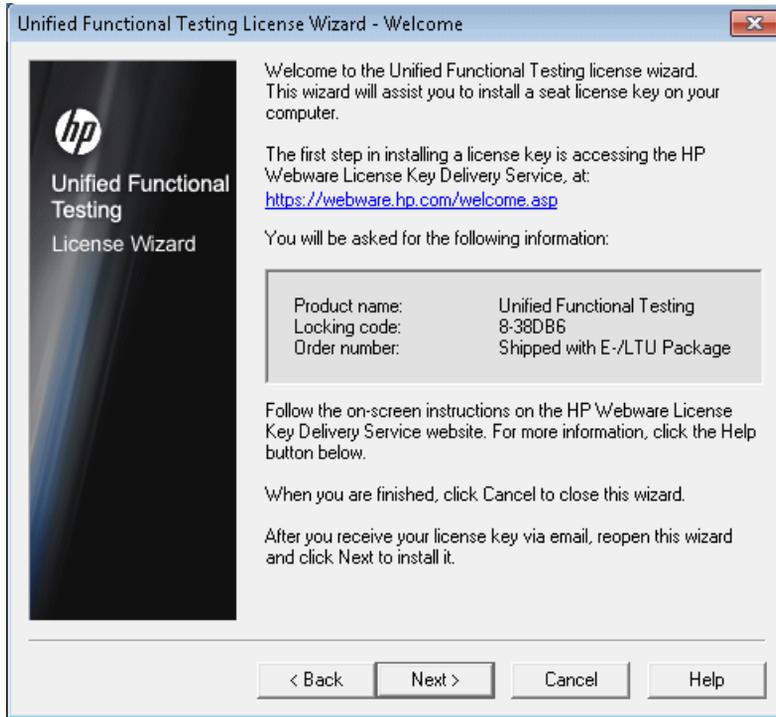
**Note:** You can also activate the seat license as part of the UFT installation. After you click **Finish** in the final installation screen, the Unified Functional Testing License Installation - Welcome screen opens, as described below.

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The License Type screen opens.



- 2 Select **Seat license** and click **Next**. In the confirmation box, click **Yes** to install a new license key. The Welcome screen opens.

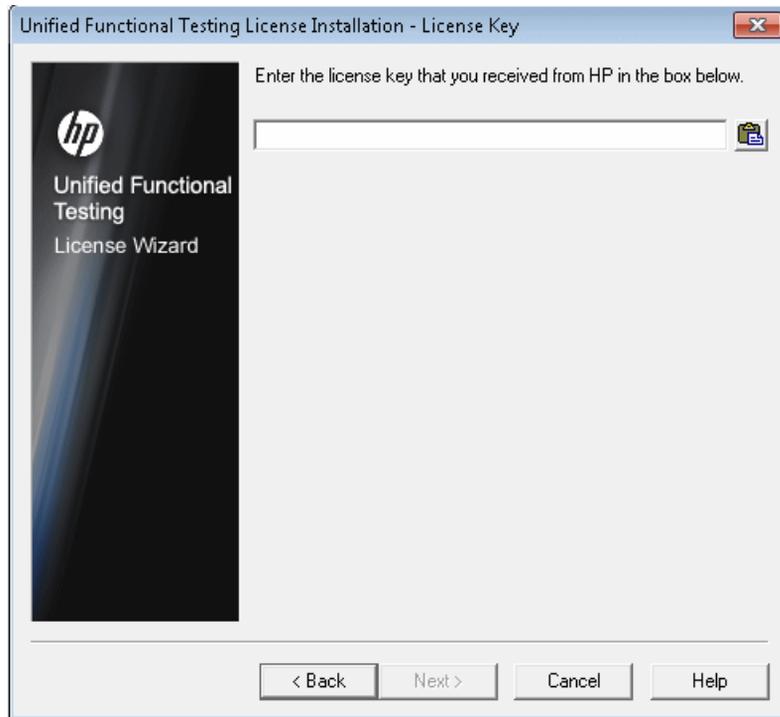


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**Tip:** Check that the locking code in the above screen matches the locking code you sent to HP when you requested a license key.

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- 3 Click **Next** to begin installing the license. The License Key screen opens.



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**Notes:**

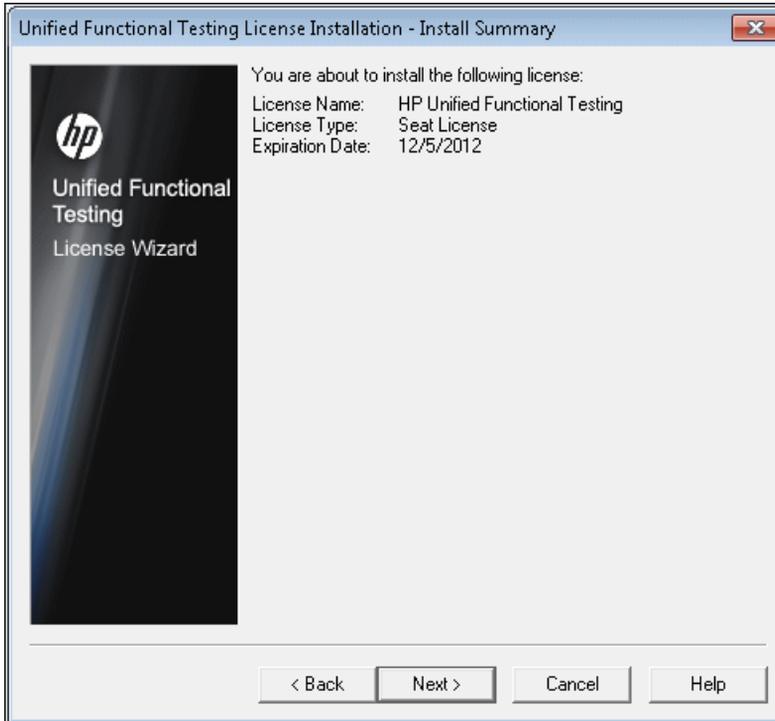
- ▶ The license key is valid only for the computer with the locking code that you entered in the HP Software Support license request form.
- ▶ A computer with multiple bootable partitions may generate a different locking code for each partition. If a different locking code is generated for a partition, you need to request a unique license key for it.

- 
- 4 Open the **.dat** file attached to the email containing your Permanent Password Certificate using any text editor. The license key is also included in the Permanent Password Certificate.

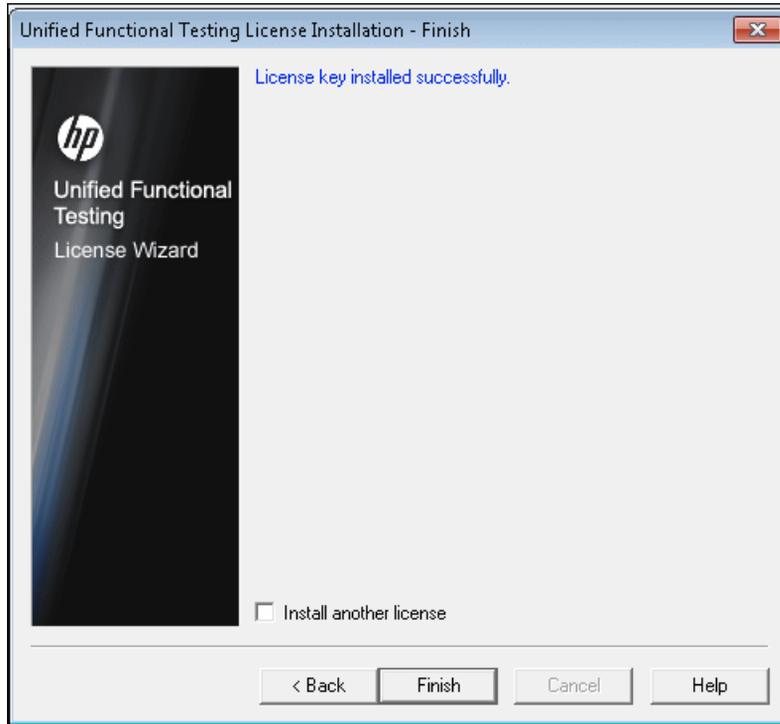
- 5 Copy the license key (with or without the # character) from the **.dat** file to the clipboard.



- 6 Paste the key into the License Installation - License Key screen by clicking the **Paste From Clipboard** button.
- 7 Click **Next**. The Install Summary screen opens.



- 8 Verify that the information is correct and click **Next**. The Finish screen opens.



If you entered a valid license key, the Finish screen confirms that your license key was successfully installed.

If the license could not be installed successfully, a message is displayed describing why. For example, if a seat license was previously installed on your computer, and you try to install a seat license again using the same license key, the license installation will not succeed. If the license could not be installed, a **Send to Support** button is displayed. You can click **Send to Support** to create an e-mail with licensing information and send the email to your nearest HP Software Support location. Make sure that you fill in the required information in the e-mail so that Software Support can assist you.

**Tip:** You can install another license by selecting the **Install another license** check box, clicking **Finish** and continuing with step 2 on page 72.

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- 9 If you do not want to install another UFT license, click **Finish** to complete the license activation process and close the wizard.

## Working with a Concurrent License

If there is an accessible concurrent license server on your network with an available license, you can connect to it. This enables you to use a concurrent license instead of a seat license. For more details on working with concurrent license servers, and the supported versions, see the *HP Functional Testing Concurrent License Server Installation Guide*.

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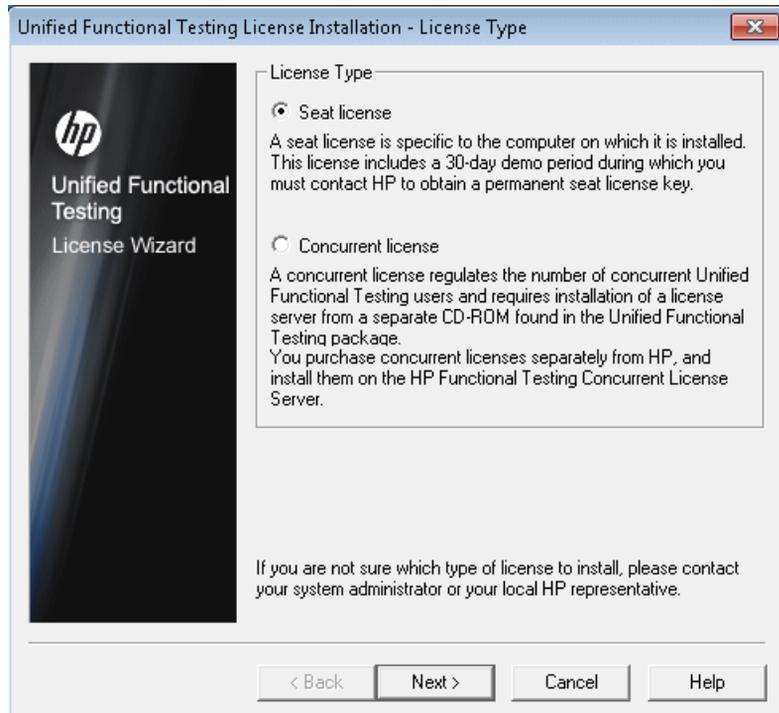
**Note:** You can also specify a concurrent license server during the UFT installation procedure. For more details, see "Installing Unified Functional Testing" on page 23.

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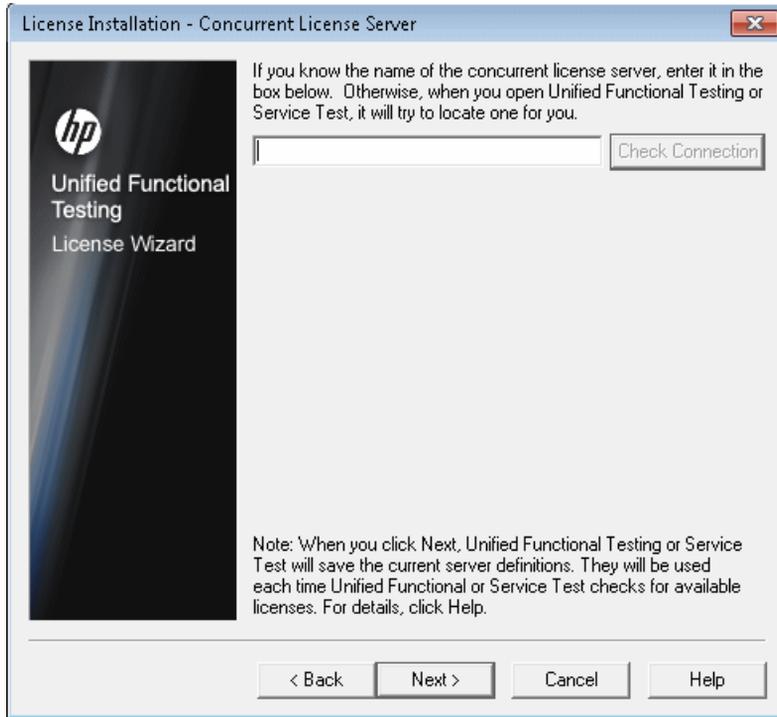
### To work with a concurrent license:

- 1 Perform one of the following:
  - ▶ From the license warning message displayed when you start UFT, click **Install License**.
  - ▶ From the **Start** menu, select **Start > Programs > HP Software > HP Unified Functional Testing > Tools > Additional Installation Requirements**, and select **Install License**.
  - ▶ From within UFT, select **Help > License Wizard**.

The License Type screen opens.



- 2 Select **Concurrent license** and click **Next**. The Concurrent License Server screen opens.



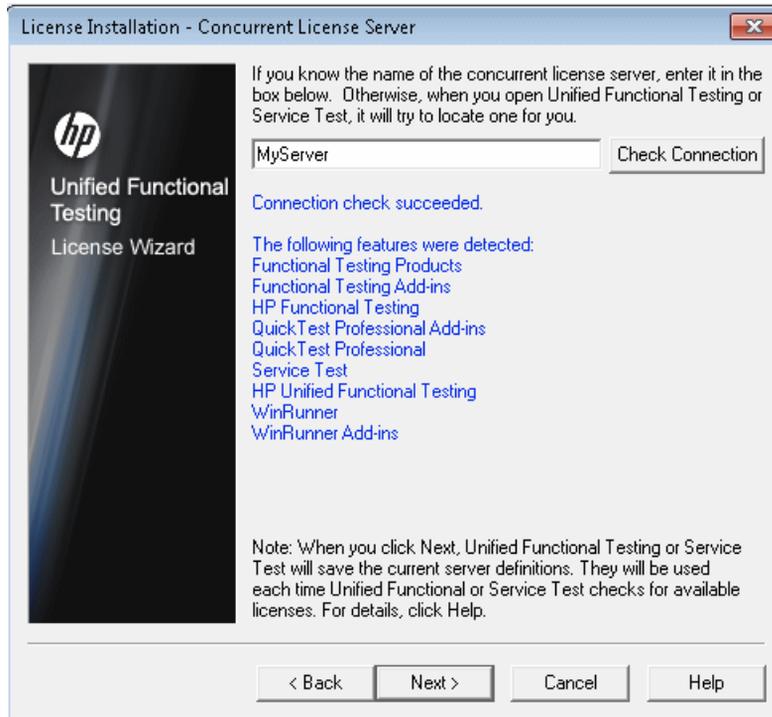
- 3 In the edit box, either enter the name or IP address of the concurrent license server to which you want to connect, or leave the box blank to instruct UFT to search for an available server on your local network.

---

**Tip:** When you activate a concurrent license using the License Wizard and specify a single server name, the LSFORCEHOST user variable is automatically defined with the concurrent license server you specified. You can modify the concurrent license server either by running the License Wizard or by setting the LSHOST or LSFORCEHOST user variable. For more details, see the *HP Functional Testing Concurrent License Server Installation Guide*.

---

- 4 Click **Check Connection**. If UFT can connect to the concurrent license server, a success message is displayed.



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**Note:** If the installation cannot connect to a concurrent license server, the Concurrent License Server screen informs you of this.

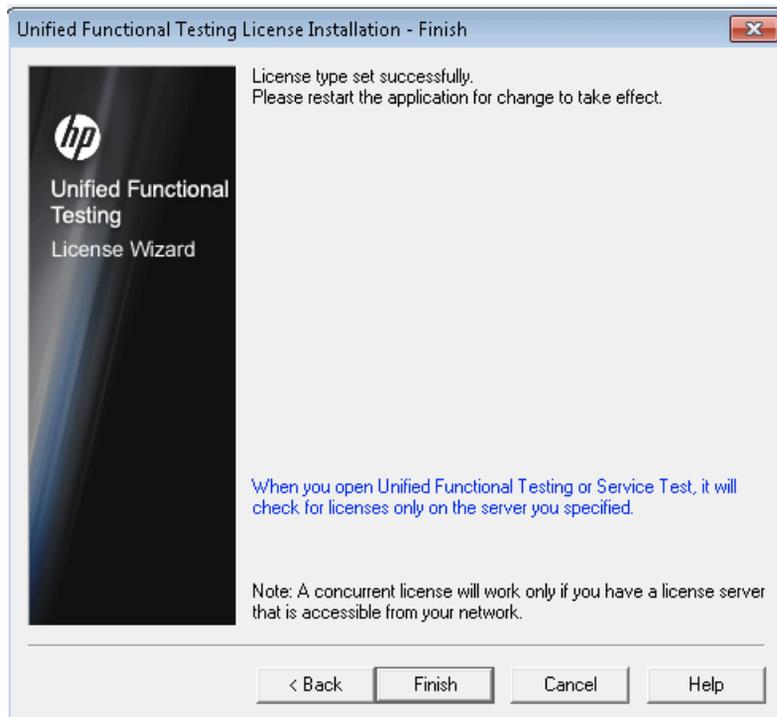
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**Tip:** If you want to specify the name of a concurrent license server that is currently unavailable, but will be available later, you can enter the name of the concurrent license server in the edit box. Even though the Concurrent License Server screen informs you that the specified server is not available for connection, the next time you open UFT, UFT will try to locate the server you specified.

---

- 5 Click **Next**. The installation informs you that the concurrent license activation was successful.



- 6 Click **Finish** to close the wizard. If UFT is open, you must close and restart to use the concurrent license server.

## Modifying License Information

After you install UFT, you can modify your license key and/or change your license type at any time. For more details on requesting a new license key, see "Requesting a Seat License Key" on page 67.

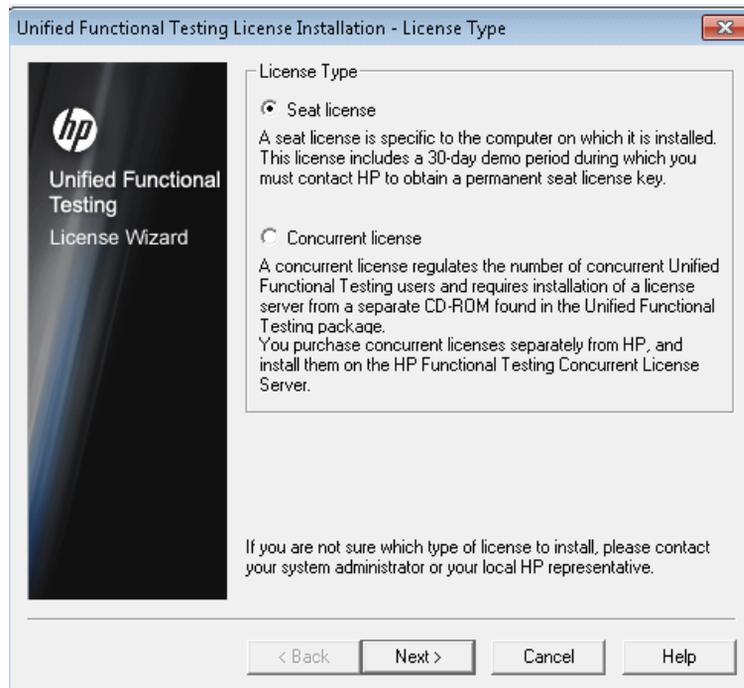
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**Note:** You must be logged in with administrator privileges to change the license type used by your UFT installation from seat to concurrent or vice versa.

---

### To modify your license information:

- 1 Open UFT.
- 2 Click **Help > License Wizard**. The Unified Functional Testing License Installation - License Type dialog box opens.



- ▶ To change your license type from concurrent to seat, select **Seat license** and click **Next**. A confirmation box opens.
  - ▶ If you already have a valid seat license key installed, click **No** to save your selected license type.
  - ▶ If you checked out a commuter license and want to use it now, click **No**.
  - ▶ If you do not have a seat license key installed, click **Yes**.

The Welcome screen opens. Follow steps 4 to 9 in *Installing a Seat License Key*.

- ▶ To change your license type from seat to concurrent, select **Concurrent license** and click **Next**. Follow steps 2 to 6 in *Working with a Concurrent License*.

---

**Note:** To work with a concurrent license, a concurrent license server must be installed on and accessible from the network, and a concurrent license must be available. For details on installing a concurrent license server, see the *HP Functional Testing Concurrent License Server Installation Guide*.

---

- 3** Click **Close** to close the About Unified Functional Testing dialog box.
- 4** Restart UFT to apply your changes.

## Working with Commuter Licenses

If you use UFT with a concurrent license, but cannot connect your computer to your network (for example, during a business trip), you can install a commuter license. Commuter licenses are available in companies that have only concurrent licenses (not seat licenses).

For example, suppose you need to travel on business with your laptop computer and you want to use UFT while you are away. You can check out a UFT license from the concurrent license server to use for the duration of your trip, and then check the license back in upon your return. Commuter licenses are valid for up to 180 days, according to your requirements.

---

**Tip:** If you have a concurrent license and are located far from the concurrent license server, you can also use a commuter license if you encounter network traffic.

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For more details, see "Checking Out a Commuter License" below, and "Checking In a Commuter License" on page 87.

---

**Note:** Installing a commuter license requires administrator permissions for the computer on which you want to use the license.

---

In addition, if you are unable to check out a license before you disconnect from the network (that is, leave for your trip), or if you checked out a license but it expired because your return was delayed, you can ask a local network user to check out a commuter license and send it to you remotely. For more details, see "Obtaining a Commuter License Remotely" on page 88.

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**Note:** If you have upgraded to HP Functional Testing Concurrent License from a version earlier than 7.6, you need to request a new server license key to enable the commuter licensing functionality. For details, contact HP Software Support or your local representative.

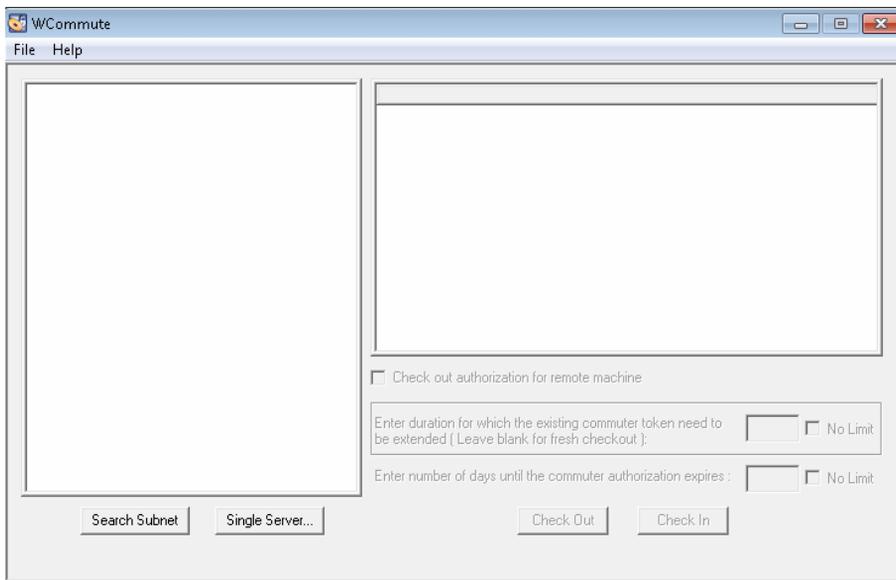
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## Checking Out a Commuter License

Before you check out a commuter license, ensure that the computer (for example, a laptop) on which you want to install the commuter license has UFT installed, is connected to the network, and has access to a concurrent license server with an available UFT license. After you have checked out the license, you can disconnect the computer from the network.

**To check out a commuter license:**

- 1 Run the **WCommute.exe** file located in **<Unified Functional Testing installation folder>\bin**. The WCommute dialog box opens.



- 2 To see commuter licenses available on all concurrent license servers located within your subnet, click **Search Subnet**. If you want to specify a particular concurrent license server, or if you want to select a concurrent license server outside of your subnet, click **Single Server**.
  - If you click **Search Subnet**, the WCommute utility searches the subnet for concurrent license servers that support commuter licensing and displays them in the WCommute dialog box.

---

**Note:** This process may take several minutes.

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- If you click **Single Server**, a dialog box opens enabling you to specify the concurrent license server you want to locate. Enter the concurrent license server computer's host name, IP address, or IPX address and click **OK**. The specified concurrent license server is located and displayed in the WCommute dialog box.

For each concurrent license server, a list of available commuter licenses is displayed. A red check mark next to a commuter license means that the license is already checked out to your computer. You cannot check out multiple licenses for the same application to the same computer. Click a license to view the license details in the right pane of the dialog box.

- 3 Select the license that you want to check out.

- 4 In the **Enter number of days until the commuter authorization expires** box, specify the maximum number of days to check out the license. The maximum number of days is 180.
- 

**Note:**

- ▶ UFT supports the Sentinel RMS License Manager version 8.4.0 as its concurrent license server. If you are upgrading to UFT with a concurrent license, you must also upgrade your concurrent license server.
  - ▶ When you check out a license, it decreases the number of licenses available for use by others. Therefore, you should specify the absolute minimum number of days that you require.
- 

- 5 Click **Check Out**. The selected license is saved locally on your computer.
- 6 To use the new checked-out license, open UFT and change your license type from concurrent to seat. In the confirmation message that opens after you change the license type, click **No** to use the commuter license. For more details, see "Modifying License Information" on page 81.

## Checking In a Commuter License

When you finish using the commuter license, you should check it in from your computer to the concurrent license server from which you checked it out. This makes the license available to other users.

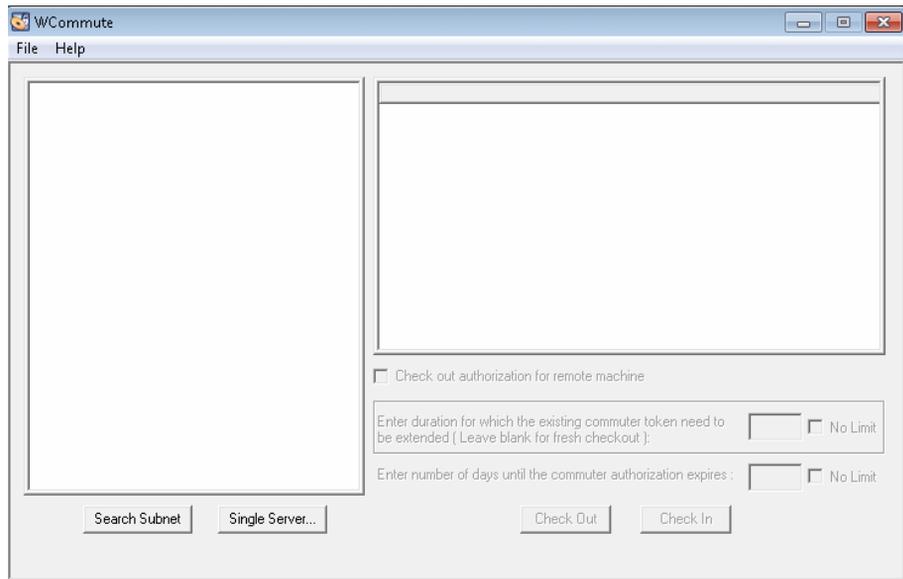
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**Note:** If your license expires, you do not need to check it in. When a license expires, you can no longer use it. The license is automatically returned to the concurrent license server, even if your computer is not connected to the concurrent license server network.

---

**To check in a commuter license:**

- 1 Run the **WCommute.exe** file located in **<Unified Functional Testing installation folder>\bin**. The WCommute dialog box opens.



- 2 Locate the concurrent license server for the commuter license you want to check in, as described in step 2 of “Checking Out a Commuter License” on page 85. You must check in the license to the same concurrent license server from which you checked it out.

- 3 Select the license you previously checked out.
- 

**Tip:** The checked-out license is indicated by a red check mark.

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- 4 Click **Check In**. The license is returned to the concurrent license server, and is made available for use by others.
- 

**Note:** Before you can use UFT again, you must change your license type from seat to concurrent. For more details, see "Modifying License Information" on page 81.

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## Obtaining a Commuter License Remotely

A local network user can locally check out a UFT commuter license and send it to you for installation on a remote computer. This is useful in situations in which you are currently not connected to the concurrent license server network. For example, you may be out of the office on an extended business trip, but need to be able to use UFT.

### To obtain a commuter license remotely:

- 1 Run the WRCommute utility to generate a commuter locking code for your computer and send the commuter locking code to a local user who has access to the concurrent license server. For more details, see "Step 1: Generating a Remote Computer Locking Code" on page 89.
- 2 Ask the local user to run the WCommute utility (entering the commuter locking code you generated) to check out a remote commuter license, and send the license to you. For more details, see "Step 2: Checking Out a Commuter License for a Remote Computer" on page 91.
- 3 Run the WRCommute utility to install the remote commuter license on your computer. For more details, see "Step 3: Installing a Commuter License on a Remote Computer" on page 94.

- 4 Open UFT and change your license type from concurrent to seat. In the confirmation message that opens after you change the license type, click **No** to use the commuter license. For more details, see "Modifying License Information" on page 81.

### Step 1: Generating a Remote Computer Locking Code

The first step in remotely obtaining a commuter license is to generate a locking code on your computer using the WRCommute utility, and transfer the code (by e-mail) to a network user who has access to the concurrent license server.

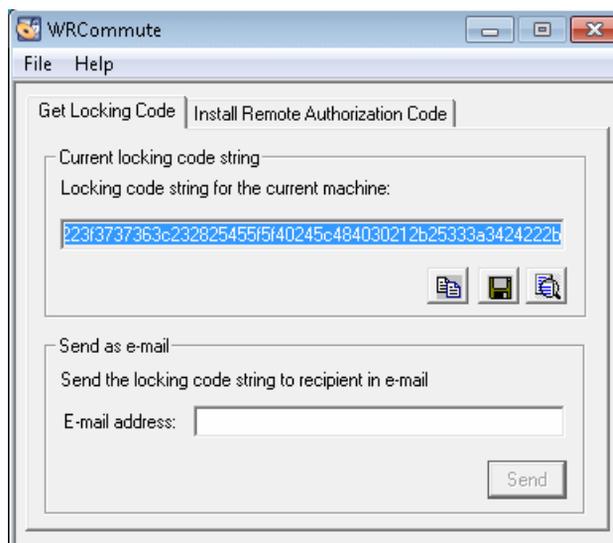
---

**Note:** The remote computer locking code used to lock a commuter license is not the same as the locking code displayed by the ECHOID utility. You must use the WRCommute utility to obtain the commuter license locking code.

---

**To generate a locking code on a remote computer:**

- 1 Run the **WRCommute.exe** file located in <Unified Functional Testing installation folder>\bin. The WRCommute dialog box opens.



The **Locking code string for the current machine** box contains the locking code that you need to e-mail to a network user who has access to the concurrent license server containing the UFT licenses.

- 2 Send the locking code to the local network user in one of the following ways:



- Select the locking code string and click the **Copy to clipboard** button to copy the string to your Windows clipboard. Then open your e-mail program and paste the string into a new e-mail message and e-mail it to the local network user.



- Click the **Save lock code string to file** button to save the locking code in a file. Specify the name and location for the file, and then attach the file to a new e-mail message and e-mail it to the local network user.



- Click the **Display locking code string** button to display the entire locking code in another dialog box. You can then select the locking code string, right-click it and select **Copy** to copy it to your Windows clipboard. Then open your e-mail program and paste the string into a new e-mail message and e-mail it to the local network user.
- In the **E-mail address** box, enter the e-mail address of the local network user and click **Send**.

---

**Note:** This option is supported only if Microsoft Outlook Express is set up as your e-mail client.

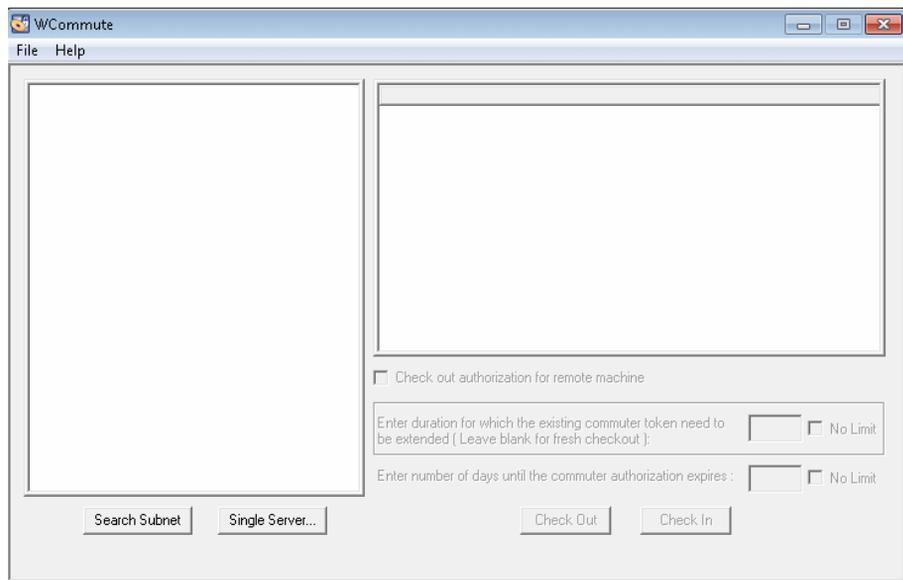
---

## Step 2: Checking Out a Commuter License for a Remote Computer

After a local network user receives the locking code, the user can check out the license and transfer the license to you (by e-mail). To do this, the user must have UFT installed on his or her computer and also have access to the concurrent license server with an available UFT license.

**To check out a commuter license for a remote computer:**

- 1 Run the **WCommute.exe** file located in **<Unified Functional Testing installation folder>\bin**. The WCommute dialog box opens.



- 2 Locate the concurrent license server from which you want to check out a remote commuter license, as described in step 2 of “Checking Out a Commuter License” on page 85.

For each concurrent license server, a list of commuter licenses that you can check out is displayed.

- 3 Select the license that you want to check out.
- 4 Select the **Check out authorization for remote machine** check box.

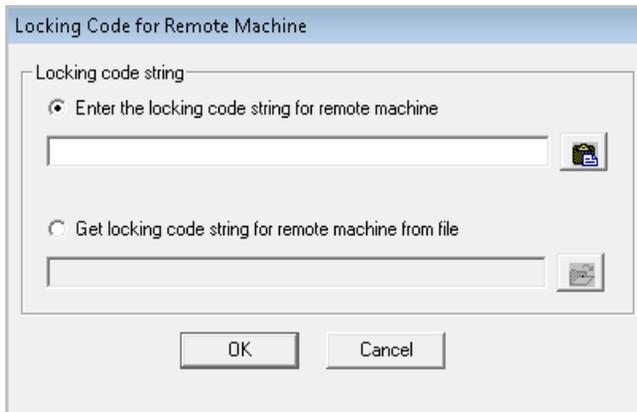
- 5 In the **Enter the number of days until the authorization expires** box, specify the number of days to check out the license. The maximum number of days is 180.

---

**Note:**

- ▶ UFT supports the Sentinel RMS License Manager version 8.4.0 as its concurrent license server. If you are upgrading to UFT with a concurrent license, you must also upgrade your concurrent license server.
  - ▶ When you check out a license for a remote computer, the license cannot be checked in and remains in use (unavailable to other users) for the entire number of days specified. Therefore, you should specify the absolute minimum number of days required.
- 

- 6 Click **Check Out**. The Locking Code for Remote Machine dialog box opens.



7 Enter the locking code that the remote user e-mailed you in one of the following ways:

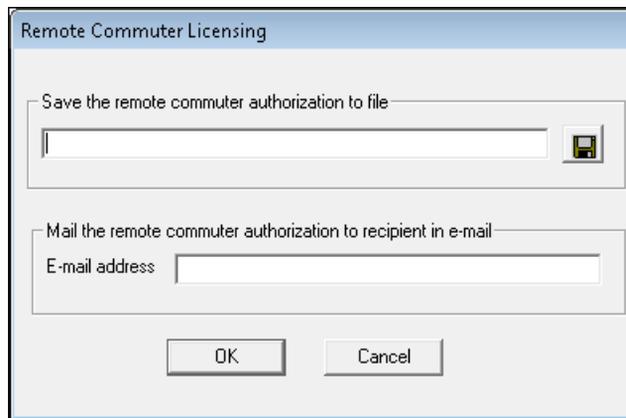


- ▶ If the locking code was e-mailed to you in the body of an e-mail, copy it to your Windows clipboard. In the Locking Code for Remote Machine dialog box, select **Enter the locking code string for remote machine** and then click the **Paste from clipboard** button.



- ▶ If the locking code was e-mailed to you as an attached file, save the attachment and then select **Get locking code string for remote machine from file**. Click the **Load** button. Select the file that contains the locking code and click **Open**.

8 Click **OK**. The Remote Commuter Licensing dialog box opens.



- 9 Send the commuter license to the remote user in one of the following ways:



- ▶ Click the **Save** button to save the locking code in a file. Specify the name and location for the file, click **Save** and then click **OK**. Attach the file to a new e-mail message and e-mail it to the remote user.
- ▶ In the **E-mail address** box, enter the e-mail address of the remote user. Click **Send** and then click **OK**.

---

**Note:** This option is supported only if Microsoft Outlook Express is set up as your e-mail client.

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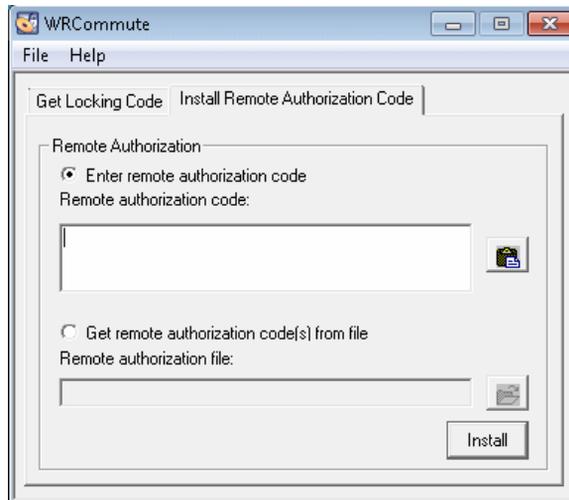
### **Step 3: Installing a Commuter License on a Remote Computer**

The final step in remotely obtaining a commuter license is to install the license that was sent to you by the network user on your computer.

#### **To install a commuter license on a remote computer:**

- 1 Ensure that you are logged in to your computer with administrator privileges.
- 2 Run the **WRCommute.exe** file located in <Unified Functional Testing installation folder>\bin. The WRCommute dialog box opens.

**3** Click the **Install Remote Authorization Code** tab.



**4** Enter the commuter license that the network user e-mailed you, as follows:



- If the commuter license was e-mailed to you in the body of an e-mail, copy it to your Windows clipboard. In the Install Remote Authorization Code tab of the WRCCommute dialog box, select **Enter remote authorization code** and then click the **Paste from clipboard** button.



- If the commuter license was e-mailed to you as an attached file, save the attachment and then select **Get remote authorization code(s) from file**. Click the **Load** button. Select the file that contains the locking code and click the **Open** button.

**5** Click **Install**. The new license code is installed on your computer.

#### **Step 4: Modifying the License Type on the Remote Computer**

Open UFT and change your license type from concurrent to seat. In the confirmation message that opens after you change the license type, click **No** to use the commuter license. For more details, see "Modifying License Information" on page 81.

---

**Note:** A remote commuter license cannot be checked in to the concurrent license server when you have finished using it—the license simply expires on the remote computer. After you return to your office and are reconnected to the network, you should change your license type from seat to concurrent. For more details, see "Modifying License Information" on page 81.

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## **Validating UFT Licenses**

The License Validation Utility decodes and validates UFT license strings. This enables you to view and copy license information and license validation information for troubleshooting purposes.

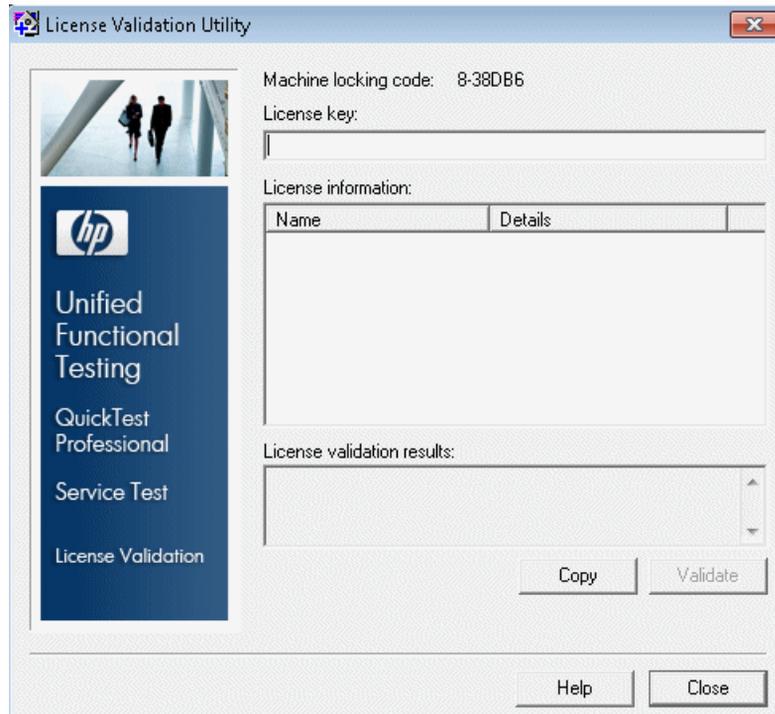
The License Validation Utility performs the following operations:

- ▶ Decodes the license string and retrieves important information regarding the license. For more details, see "License Information" on page 99.
- ▶ Validates the license according to a predefined set of checks. For more details, see "Validation Checks" on page 100.

If required, you can copy the decoding and validation results to the clipboard. For more details, see "Copying your License Validation Result to the Clipboard" on page 100.

To decode and validate a license:

- 1 Select **Start > Programs > HP Software > HP Unified Functional Testing > Tools > License Validation Utility**.



- 2 In the **License Key** box, enter the license code you want to decode and validate. You can find the license code already installed on a UFT computer in the **lservrc** file. The location of this file is specified by the **lservrc** environment variable.
- 

**Tips:**

- When you enter the license code, ensure that a # character is inserted at the end of the license code, or an error is reported in the **License validation results** area. The # indicates the end of the license code, and any string after the # character is ignored by the License Validation Utility.
  - To find the path of the **lservrc** file in the environment variable, right-click **My Computer** and select **Properties**. In the System Properties dialog box, select the **Advanced** tab, and then click **Environment Variables**. The path is displayed in the **User variables for <user>** box of the Environment Variables window for the LSERVRC variable. For example, C:\Program Files\Common Files\HP\License Manager\lservrc.
- 

- 3 Click **Validate**. The license string is decoded.

License information is displayed in the **License information** area. For more details, see "License Information" on page 99.

The result of the validation is displayed in the **License validation results** area. For more details, see "Validation Checks" on page 100.

- 4 If required, click **Copy** to copy the information to the clipboard. The copied information includes the current computer locking code, the license string that was decoded, and the decoding and validation results. For more details, see "Copying your License Validation Result to the Clipboard" on page 100.
- 5 Click **Close** to close the utility.

## License Information

The result of the decoding operation includes the following information about the license.

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**Note:** Some information provided by the operation is intended for HP Software Support only and is not described here.

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- ▶ **Feature Name.** The UFT feature name specified when the license was created.
- ▶ **Feature Version.** The license version specified when the license was created. This is not the UFT version number.
- ▶ **Seat/Concurrent.** The license type. This can be either a **Seat** license that is specific to the computer on which the license is installed, or a **Concurrent** license, which references a current license server that can be used by multiple UFT users.
- ▶ **Trial/Normal.** The license type. It can be either a **Trial** license, which is a demo license that has a limited period of use, or a **Normal** license.
- ▶ **Trial Days Count.** Applicable only for trial licenses. Specifies the number of days until the trial period is over. The count is started from the date the UFT core components are installed.
- ▶ **Locking Code.** The locking code specified when the license was created. This code uniquely identifies the computer on which UFT is installed.
- ▶ **Clock Tamper.** Indicates whether a license can be issued, based on whether any date changes have been made to the computer on which UFT is installed.
- ▶ **Commuter License.** Indicates whether commuter licenses are supported. A commuter license enables you to work with UFT when you are not connected to the UFT concurrent license server. Commuter licenses are available only with concurrent licenses. For more details, see "Working with Commuter Licenses" on page 83.

## Validation Checks

The validation checks performed by the License Validation Utility include the following:

- 1 Does the UFT feature name match one of the existing features?
- 2 Does the license version match one of the existing versions?
- 3 Does the locking code match the locking code of the computer on which UFT is installed?
- 4 Has the trial period specified in the license string ended?
- 5 If the license is a concurrent license, does it support commuter licenses?

## Copying your License Validation Result to the Clipboard

In some cases, you may need a copy of the information provided by this utility. For example, you may need to forward this information to HP Software Support.

When the validation operation is complete, click the **Copy** button to copy the information to the clipboard. Then paste the information as required.

## Troubleshooting Concurrent Licensing Issues

In certain circumstances, UFT cannot connect to the license server, and a License Error message opens.

Check whether one or more of the following are causing the error:

- "There is no network connection between the server and client computers" on page 101
- "The license server is not running" on page 102
- "Licenses are not installed on the license server" on page 102
- "The license key file (lserverc) cannot be found on the server" on page 103
- "The license server is being used by the maximum number of users" on page 103
- "Two or more versions of the license server are running" on page 104
- "The client computer is configured to use a seat license" on page 104
- "The license key does not match the license server locking code" on page 104
- "The client computer cannot identify the license keys on the server computer" on page 105
- "The LSHOST or LSFORCEHOST variables are not set" on page 106
- "The LSERVRC system variable is set on the client computer" on page 106
- "The client computer connects through VPN software" on page 106

### **There is no network connection between the server and client computers**

You can check the network connection between the client and server machines by pinging the license server machine in a command prompt window.

For example: `c:\ ping <license server name>`

If there are no replies from the ping command, or if there are timeouts in the replies, there may be a network problem. If required, contact your Computer or Network Administrator.

### **The license server is not running**

You may need to start or restart the license server service.

**To start or restart the license server service:**

- 1** Open the Control Panel (**Start > Settings > Control Panel**).
- 2** Select **Services**.

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**Note:** On some operating systems, such as Windows 2000, the Services utility is located in the Administrative Tools section (folder) of the Control Panel.

---

- 3** Select **SentinelRMS** service.
- 4** Click **Start the Service** (or **Restart the Service**), or right-click and select **Start** (or **Restart**).

### **Licenses are not installed on the license server**

Use the WlmAdmin utility to check that licenses are installed on the license server. For more details on the WlmAdmin utility, see the **Utilities** chapter in the *HP Functional Testing Concurrent License Server Installation Guide*.

**To check licenses on the license server:**

- 1** Run **SrvUtils.exe** in the **LicenseServer\utils** folder of the UFT installation DVD.
- 2** Select **WlmAdmin**.
- 3** Enter the license server name as a defined server.
- 4** Try to expand the license server branch.

If no license key information is displayed, then the installed licenses are invalid, or the license key file (lserverc) cannot be found. If license key information is displayed, then the installed licenses are valid. You can check whether the licenses are all in use by selecting a license and checking the **Statistics** pane in the WlmAdmin utility.

### **The license key file (lserverc) cannot be found on the server**

The lserverc file should be located in the following directory:

**<drive>\Program Files\Common Files\SafeNet Sentinel\Sentinel RMS License Manager\WinNT**

If the file is not there, the license server is not able to locate licenses. Search the license server computer for the file. If found, move the file to the correct directory and restart the SentinelLM service. If the file is not found, licenses are not installed.

### **The license server is being used by the maximum number of users**

- If all licenses are in use, the License Server Manager is not able to issue another license until a license is released. You can use the WlmAdmin utility to determine which users are currently using the licenses. Run **SrvUtils.exe** in the **LicenseServer\utils** folder of the UFT installation DVD, and select **WlmAdmin**.

For more details on the WlmAdmin utility, see the **Utilities** chapter in the *HP Functional Testing Concurrent License Server Installation Guide*.

- There may be cases where UFT closes unexpectedly and does not release the license automatically. If this happens, you can wait for the license to timeout, or you can restart the license server.

For more details, see the HP Software Self-solve knowledge base (<http://h20230.www2.hp.com/selfsolve/document>) (the Knowledge Base area requires that you register as an HP Passport user and sign in). In the knowledge base, search for:

**Document ID 18428.** "What happens if AQT/QTP crashes on a client machine while using a Floating license".

### **Two or more versions of the license server are running**

Only one version of the license server should be installed and running on the same computer. If there are more versions, use Add/Remove Programs to uninstall all of the license server instances. Then install the latest version of the license server software and reinstall the license code keys.

### **The client computer is configured to use a seat license**

For details on how to check and modify concurrent license or seat license configuration, see "Modifying License Information" on page 81.

### **The license key does not match the license server locking code**

Use the **lsdecode.exe** utility to check the locking code for a license key.

#### **To check the license key locking code:**

**1** Copy the **lsdecode.exe** utility from the **LicenseServer\utils** folder of the UFT installation DVD to the location of the **lservc** file (<drive>\Program Files\Common Files\SafeNet Sentinel\Sentinel RMS License Manager\WinNT).

**2** Run the **lsdecode.exe** utility. A command prompt window opens with the decoded key information.

The locking code for the license key is displayed on the **Server locking code** line.

**3** Run the **inst\_key.exe** utility from the **LicenseServer\KeyInstallation** folder of the UFT installation DVD.

The license server computer's locking code is displayed on the Welcome screen.

---

**Note:** This step must be done on the license server computer. Accessing the license server computer remotely can generate an invalid license code.

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- 4 Compare the locking code for the license key and from the server computer.

If the locking codes do not match, you need to determine why the locking code has changed. Reinstalling the operating system, renaming the computer, using a dynamic IP address, retrieving the locking code through a terminal session, or installing the license keys through a terminal session can cause the locking code to be changed and the license keys to become invalid.

After you have determined why the locking code has changed, you can submit a License Request to have a new license key generated.

### **The client computer cannot identify the license keys on the server computer**

Use the WlmAdmin utility to check the licenses on the client computer. For more details on the WlmAdmin utility, see the **Utilities** chapter in the *HP Functional Testing Concurrent License Server Installation Guide*.

#### **To check licenses on the client computer:**

- 1 Run **SrvUtils.exe** in the **LicenseServer\utils** folder of the UFT installation DVD.
- 2 Select **WlmAdmin**.
- 3 Enter the license server name as a defined server.
- 4 Try to expand the license server branch.

If license keys are not identified, then either UDP Port 5093 is blocked between the client and server, or the IP address of the license server is using Network Address Translation (NAT), which is not supported. If required, contact your Computer or Network Administrator.

For more details, see the HP Software Self-solve knowledge base (<http://h20230.www2.hp.com/selfsolve/document>) (the Knowledge Base area requires that you register as an HP Passport user and sign in). In the knowledge base, search for:

- ▶ **Document ID 18402.** "What is port 5093 in the license mechanism used for?"
- ▶ **Document ID 41449.** "Does UDP port 5093 need to be bi-directional?"
- ▶ **Document ID 18424.** "How to set up the License Manager for machines running on different subnets."

### **The LSHOST or LSFORCEHOST variables are not set**

For details on how to set these variables, see the *HP Functional Testing Concurrent License Server Installation Guide*.

### **The LSERVRC system variable is set on the client computer**

The LSERVRC variable is used for seat licenses and may have been created for the demo license when UFT was installed. If this variable exists, it must be removed so it does not interfere with locating the license server.

**To remove The LSERVRC system variable:**

- 1** On your desktop, right-click **My Computer** and select **Properties**.
- 2** Select the **Advanced** tab and click **Environment Variables**.
- 3** Check the System Variables list for the LSERVRC variable. If it exists, click **Delete**.
- 4** Click **OK** to close the windows.
- 5** Reboot the client computer to implement the changes.

### **The client computer connects through VPN software**

If the client computer is connecting through VPN software, verify that VPN has **not** been configured to use **IPSec over UDP**. This configures the network to use Network Address Translation (NAT), which is not supported.

# 4

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## Maintaining and Uninstalling UFT

You can install and uninstall individual UFT features, or uninstall all UFT software and files (including add-ins). You can also repair a UFT installation that has become corrupted.

---

**Note:** In some situations, you may be prompted to restart your computer after you have installed or made changes to the UFT installation. It is recommended that you restart your computer as soon as possible if you are prompted to do so. Delaying the system restart may result in unexpected UFT behavior.

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**This chapter includes:**

- ▶ Installing and Uninstalling Specific UFT Features on page 108
- ▶ Repairing Your UFT Installation on page 110
- ▶ Uninstalling UFT on page 111
- ▶ Troubleshooting and Limitations - Uninstalling UFT on page 113

## Installing and Uninstalling Specific UFT Features

Your UFT DVD enables you to install or uninstall specific UFT features. For example, you can install or uninstall an add-in or the sample applications provided with UFT.

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**Note:** You can also install or uninstall specific UFT features by choosing **Control Panel > Add or Remove Programs**, and then clicking the **Change** button for UFT.

---

The procedure for installing or uninstalling features is similar to the procedure for performing a Custom installation. For more details on the specific screens mentioned in the procedure below, see "Installing Unified Functional Testing" on page 23.

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**Note:** Before uninstalling UFT features, make sure that you have a minimum of 50 MB free disk space.

---

### To install or uninstall UFT features:

- 1 Insert the UFT DVD into the DVD drive. If the DVD drive is on your local computer, the UFT Setup window opens.

If the DVD is in a network drive, double-click **setup.exe** in the root folder of the DVD. The UFT Setup window opens.

---

**Note:** You must use the same UFT version that you used for the original installation.

---

- 2** Click **Unified Functional Testing Setup**. The Welcome to the HP Unified Functional Testing Setup Wizard opens. Click **Next** to proceed.
- 3** The Maintenance Type screen opens. Select **Modify** and click **Next**.
- 4** In the Custom Setup screen, click an icon to view a menu and select how that feature is installed on your computer. The following options are available, depending on the feature:



- **Will be installed on local hard drive.** Installs the selected feature on your local hard drive.



- **Entire feature will be installed on local hard drive.** Installs the entire selected feature on your local hard drive.



- **Entire feature will be unavailable.** Excludes the feature from the installation and it is not available in UFT.

You can select an item in the list to see a description of the feature as well as the space requirement on your drive for the feature, or how much space will be freed up if the feature is uninstalled.

Click **Next** to proceed.

- 5** Click **Next** in the Confirm Installation screen. The Installing HP Unified Functional Testing screen displays the progress of the application modification.
- 6** The Installation Complete screen opens. Click **Finish**.

---

**Note:** If you install a feature that has prerequisites for use with UFT, the Additional Installation Requirements dialog box opens after the feature is installed. For more details, see "Working with the Additional Installation Requirements Utility" on page 35.

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## Repairing Your UFT Installation

Your UFT DVD enables you to repair an existing UFT installation, by replacing any missing or damaged files from your previous UFT installation.

---

**Note:** You can also repair an existing UFT installation by choosing **Start > Settings > Control Panel > Add or Remove Programs**, and then clicking the **Change** button for UFT.

---

### To repair your UFT installation:

- 1** Insert the UFT DVD into the DVD drive. If the DVD drive is on your local computer, the UFT Setup window opens.

If the DVD is in a network drive, double-click **setup.exe** in the root folder of the DVD. The Unified Functional Testing Setup window opens.

---

**Note:** You must use the same UFT version that you used for the original installation.

---

- 2** Click **Unified Functional Testing Setup**. The Welcome to the HP Unified Functional Testing Setup Wizard opens.
- 3** Click **Next** to proceed. The Maintenance Type screen opens.

- 4 Select **Repair** and click **Next**. Then click **Next** on the Confirm Repair screen. The Setup Status screen displays the progress of the repair process.
- 

**Note:** The repair process might take some time to start. During this time, the wizard might not respond. Afterwards, the Run Setup screens open and the repair process continues.

---

- 5 Click **Finish** in the Installation Complete screen.

## Uninstalling UFT

You can uninstall UFT using the **Add or Remove Programs** option in the Windows Control Panel or using the UFT DVD.

You can save your existing customization settings and registry keys before you uninstall UFT, and then if required, restore them after you install a new version.

Before uninstalling UFT, make sure that you have a minimum of 50 MB free disk space.

---

### Notes:

- You can uninstall specific UFT features as described in "Installing and Uninstalling Specific UFT Features" on page 108.
  - You can uninstall individual UFT hotfixes (patches) using the **Add or Remove Programs** option in the Windows Control Panel.
-

**To uninstall UFT using the Add or Remove Programs option in the Windows Control Panel:**

- 1** Select **Control Panel > Add or Remove Programs**. The list of currently installed programs opens.
- 2** Select **Unified Functional Testing** and click **Remove**. A message prompts you to confirm your decision to uninstall UFT. Click **Yes** and follow the on-screen instructions to uninstall UFT. Click **No** to keep UFT installed on your computer.

The uninstall program removes all UFT features from your computer (including any UFT add-ins).

**To uninstall UFT using the UFT DVD:**

- 1** Insert the UFT DVD into the DVD drive. If the DVD drive is on your local computer, the UFT Setup window opens.

If the DVD is in a network drive, double-click **setup.exe** in the root folder of the DVD. The UFT Setup window opens.

---

**Note:** You must use the same UFT version that you used for the original installation.

---

- 2** Click **Unified Functional Testing Setup**. The Welcome to HP Unified Functional Testing Setup Wizard opens.
- 3** Click **Next**. The Maintenance Type screen opens.
- 4** Select **Remove** and click **Next**. Click **Next** in the Confirm Uninstall screen.

The uninstall program removes all UFT features from your computer (including any UFT add-ins).

- 5 Click **Finish** in the Removal Complete screen.

---

**Note:** Uninstalling UFT does not uninstall any non-HP applications that you install as part of the UFT installation, for example, the Microsoft Script Debugger or the Microsoft .NET Framework. You can uninstall these applications using the Add or Remove Programs dialog box in the **Control Panel**.

---

## **Troubleshooting and Limitations - Uninstalling UFT**

This section describes troubleshooting and limitations for uninstalling UFT.

- When a ALM client is installed on the same computer as UFT, uninstalling UFT may remove the association of movie (FBR) files. This may prevent you from viewing movies associated with defects in ALM using the HP Micro Player.

**Workaround:** Re-associate the movie files with the HP Micro Player, as follows:

- a Select **Start > All Programs > HP Software > HP Unified Functional Testing > Tools > HP Micro Player** to open the HP Micro Player.
- b Select **File > Options** to open the HP Micro Player Options dialog box. Then select the **Associate FBR files with this Player** check box to associate the files directly with the HP Micro Player.

