

HP Unified Functional Testing

For the Windows® operating systems

Software Version: 11.50

Installation Guide

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Contents

Contents	5
About the Installation Guide	8
Topic Types	8
UFT Help Contents	9
Additional Online Resources	11
Chapter 1: Before You Install	14
Setting Required Access Permissions	15
Considerations When Upgrading from an Earlier Version of QuickTest	16
Run Results Viewer	16
Chapter 2: Setting Up UFT	17
Understanding the UFT Setup for Different License Types	19
Setting Up UFT with a Seat License	19
Setting Up UFT with a Concurrent License	19
Considerations for Installing UFT	21
Installing Unified Functional Testing	22
Working with the Additional Installation Requirements Utility	34
Verifying the UFT Installation	37
Modifying DCOM Permissions Manually to Enable Remote UFT Execution	39
Modifying User Account Control Settings to Connect with ALM (Windows Vista, Windows 7, Windows Server 2008, Windows Server 2008 R2, Windows 8, and Windows Server 2012)	46
Unified Functional Testing Setup Window Options	48
Included Utilities and Features	49
Browsing the UFT Program Folder	50
Setting Up a Silent Installation	51
Before You Install UFT Silently	51
Prerequisite Software for ALM	52
Installing UFT Silently	53
Installing the UFT Add-in for ALM Silently	55
Silent installation commands	57

Unified Functional Testing User Interface Pack Installation	58
Prerequisites for the UFT User Interface Pack Installation	58
Installing the Unified Functional Testing User Interface Pack	58
Troubleshooting and Limitations - Installing UFT	60
Accessing UFT in Windows 8 Operating Systems	61
Chapter 3: Working with UFT Licenses	63
Understanding UFT License Types	65
Requesting a Seat License Key	66
Requesting a License Key via the HP Software Licensing Portal	67
Installing a Seat License Key	68
Working with a Concurrent License	74
Modifying License Information	79
Working with Commuter Licenses	81
Checking Out a Commuter License	81
Checking In a Commuter License	83
Obtaining a Commuter License Remotely	84
Validating UFT Licenses	91
License Information	93
Validation Checks	94
Copying your License Validation Result to the Clipboard	94
Troubleshooting and Limitations - Working with Licenses	95
Troubleshooting Concurrent Licensing Issues	95
There is no network connection between the server and client computers	95
The license server is not running	96
Licenses are not installed on the license server	96
The license key file (lserverc) cannot be found on the server	96
The license server is being used by the maximum number of users	97
Two or more versions of the license server are running	97
The client computer is configured to use a seat license	97
The license key does not match the license server locking code	97
The client computer cannot identify the license keys on the server computer	98

The LSHOST or LSFORCEHOST variables are not set	99
The LSERVRC system variable is set on the client computer	99
The client computer connects through VPN software	99
Chapter 4: Maintaining and Uninstalling UFT	100
Installing and Uninstalling Specific UFT Features	101
Repairing Your UFT Installation	103
Uninstalling UFT	104
Troubleshooting and Limitations - Uninstalling UFT	105
We appreciate your feedback!	106

About the Installation Guide

The *HP Unified Functional Testing Installation Guide* provides a complete, step-by-step instructions on 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.

Topic Types

The content in the UFT guides is organized by topics. Three main topic types are in use: **Concepts**, **Tasks**, and **Reference**.

Topic Type	Description	Usage
Concepts	Background, descriptive, or conceptual information.	Learn general information about what a feature does.
Tasks	<p>Instructional Tasks. Step-by-step guidance to help you work with the application and accomplish your goals.</p> <p>Task steps can be with or without numbering:</p> <ul style="list-style-type: none"> • Numbered steps. Tasks that are performed by following each step in consecutive order. • Non-numbered steps. A list of self-contained operations that you can perform in any order. 	<ul style="list-style-type: none"> • Learn about the overall workflow of a task. • Follow the steps listed in a numbered task to complete a task. • Perform independent operations by completing steps in a non-numbered task.
	Use-case Scenario Tasks. Examples of how to perform a task for a specific situation.	Learn how a task could be performed in a realistic scenario.
Reference	General Reference. Detailed lists and explanations of reference-oriented material.	Look up a specific piece of reference information relevant to a particular context.
	User Interface Reference. Specialized reference topics that describe a particular user interface in detail. Selecting Help on this page from the Help menu in the product generally open the user interface topics.	Look up specific information about what to enter or how to use one or more specific user interface elements, such as a window, dialog box, or wizard.

Topic Type	Description	Usage
Troubleshooting and Limitations	Troubleshooting and Limitations. Specialized reference topics that describe commonly encountered problems and their solutions, and list limitations of a feature or product area.	Increase your awareness of important issues before working with a feature, or if you encounter usability problems in the software.

UFT Help Contents

The UFT Help includes the following:

Type	Included Documentation
Getting to Know UFT Documentation	<ul style="list-style-type: none"> • Readme provides the latest news and information about UFT. Select Start > All Programs > HP Software > HP Unified Functional Testing > Readme. <div style="background-color: #f0f0f0; padding: 10px; margin: 10px 0;"> <p>Note: For details on accessing UFT and UFT tools and files in Windows 8, see "Accessing UFT in Windows 8 Operating Systems" on page 61.</p> </div> <ul style="list-style-type: none"> • Installation Guides explain how to install and set up UFT or the HP Functional Testing Concurrent License Server. Select Help > Unified Functional Testing Help and click the link to the appropriate guides from the left pane. • Tutorials teach you basic UFT skills for GUI testing and API testing and show you how to design tests for your applications. Select Help > UFT Tutorial. • UFT Product Movies provide an overview and step-by-step instructions describing how to use selected UFT features. Select Help > Product Movies.

Type	Included Documentation
Feature Documentation	<p>UFT Help includes:</p> <ul style="list-style-type: none">• <i>HP Unified Functional Testing User Guide</i> describes how to use UFT to test your application.• <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.• <i>HP Unified Functional Testing Add-ins Guide</i> describes how to work with supported environments using UFT add-ins, and provides environment-specific information for each add-in.• <i>HP UFT Object Model Reference for GUI Testing</i> describes UFT test objects, lists the methods and properties associated with each object, and provides syntax information and examples for each method and property. <p>Select Help > HP Unified Functional Testing Help.</p>

Type	Included Documentation
Reference Documentation	<p data-bbox="500 289 1339 352">HP UFT Advanced References contains documentation for the following UFT COM and XML references:</p> <ul data-bbox="500 388 1372 1312" style="list-style-type: none"><li data-bbox="500 388 1372 619">• HP UFT Automation Object Model Reference 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 data-bbox="500 655 1372 745">• HP UFT Run Results Schema Reference documents the run results XML schema, which provides the information you need to customize your run results.<li data-bbox="500 781 1372 871">• HP UFT Test Object Schema Reference for GUI Testing documents the test object XML schema, which provides the information you need to extend test object support in different environments.<li data-bbox="500 907 1372 1039">• HP UFT Object Repository Schema Reference for GUI Testing documents the object repository XML schema, which provides the information you need to edit an object repository file that was exported to XML.<li data-bbox="500 1075 1372 1207">• HP UFT Object Repository Automation Reference for GUI Testing 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 data-bbox="500 1243 1372 1312">• VBScript Reference contains Microsoft VBScript documentation, including VBScript, Script Runtime, and Windows Script Host. <p data-bbox="500 1348 1274 1375">Select Help > HP UFT GUI Testing Advanced References Help.</p>

Additional Online Resources

The following additional online resources are available from the Unified Functional Testing Help menu:

Resource	Description
HP Software Support Site	<p>Opens the HP Software Support Web site. This site enables you to browse the HP Software 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. The URL for this Web site www.hp.com/go/hpssoftwaresupport.</p> <ul style="list-style-type: none"> • 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 • To register for an HP Passport user ID, go to: http://h20229.www2.hp.com/passport-registration.html
Testing Forums	<p>Opens the testing forums for GUI Testing, API Testing, and BPT Testing forums. where you can interact with other users of UFT and discuss topics related to GUI Testing, API Testing, and BPT.</p> <p>The URLs for these sites are:</p> <ul style="list-style-type: none"> • GUI Testing: http://h30499.www3.hp.com/t5/Unified-Functional-Testing/bd-p/sws-Fun_TEST_SF • API Testing: http://h30499.www3.hp.com/t5/Service-Test-Support-and-News/bd-p/sws-Serv_TEST_SF • BPT: http://h30499.www3.hp.com/t5/Business-Process-Validation/bd-p/sws-BPT_SF
UFT Product Page	<p>Opens the HP Unified Functional Testing product page, with information and related links about UFT.</p>
Troubleshooting & Knowledge Base	<p>Opens the Troubleshooting page on the HP Software Support Web site where you can search the HP Software Self-solve knowledge base. Choose Help > Troubleshooting & Knowledge Base. The URL for this Web site is http://h20230.www2.hp.com/troubleshooting.jsp.</p>
HP Software Community Site	<p>Opens the HP IT Experts Community site, where you can interact with other HP software users, read articles and blogs on HP software and access downloads of other software products.</p>
Manuals Site	<p>Opens the HP Software Product Manuals Web site, where you can search for the most up-to-date documentation for a selected HP Software product. The URL for this Web site is http://support.openview.hp.com/selfsolve/manuals (requires an HP Passport).</p>

Resource	Description
What's New	Opens the UFT What's New Help, describing the new features and enhancements in this version of UFT.
Product Movies	Opens a page displaying a list of all product movies.
HP Software Web site	Opens the HP Software Web site. This site provides you with the most up-to-date information on HP Software products. This includes new software releases, seminars and trade shows, customer support, and more. Choose Help > HP Software Web site . The URL for this Web site is www.hp.com/go/software .

You can access the following sample applications from the **Start** menu. These applications are the basis for many examples in this guide:

- Mercury Tours sample Web site. The URL for this Web site is <http://newtours.demout.com>.
- Mercury Flight application. To access from the Start menu, select **All Programs > HP Software > HP Unified Functional Testing > Sample Applications > Flight API / Flight GUI**.

Chapter 1: Before You Install

Welcome to HP Unified Functional Testing, 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.

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*.

Before you install UFT, confirm that your computer meets all system requirements. For details, see the *HP Unified Functional Testing Readme*.

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 16.

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	15
Considerations When Upgrading from an Earlier Version of QuickTest	16
Run Results Viewer	16

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.

Note: If you are working with a firewall, it is recommended that you add UFT.exe to the list of firewall exceptions.

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 installation folder

Considerations When Upgrading from an Earlier Version of QuickTest

- You can automatically install UFT 11.50 from QuickTest versions 9.5 or later. You are prompted to accept the automatic installation. If you click **Yes**, the installer automatically uninstalls the previous version of QuickTest and reinstalls UFT 11.50. 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 License Wizard as part of the installation.
- 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.

Run Results Viewer

The UFT installation includes the Run Results Viewer application to view run results. Following the UFT installation, the Run Results Viewer is automatically installed.

You can also install the Run Results Viewer independently of UFT on any computer. To install the Run Results Viewer, run the `HP_Run_Results_Viewer.msi` file in the DVD's `RunResultsViewer\MSI` folder on any computer.

Chapter 2: Setting Up UFT

When you install UFT, you must know which features and add-ins 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 19.

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.

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.

For details on accessing UFT and UFT tools and files in Windows 8, see "[Accessing UFT in Windows 8 Operating Systems](#)" on page 61.

This chapter includes:

Understanding the UFT Setup for Different License Types	19
Setting Up UFT with a Seat License	19
Setting Up UFT with a Concurrent License	19
Considerations for Installing UFT	21
Installing Unified Functional Testing	22
Working with the Additional Installation Requirements Utility	34
Verifying the UFT Installation	37
Modifying DCOM Permissions Manually to Enable Remote UFT Execution	39
Modifying User Account Control Settings to Connect with ALM (Windows Vista, Windows 7, Windows Server 2008, Windows Server 2008 R2, Windows 8, and Windows Server 2012) ...	46
Unified Functional Testing Setup Window Options	48
Included Utilities and Features	49
Browsing the UFT Program Folder	50
Setting Up a Silent Installation	51

Before You Install UFT Silently	51
Installing UFT Silently	53
Installing the UFT Add-in for ALM Silently	55
Silent installation commands	57
Unified Functional Testing User Interface Pack Installation	58
Prerequisites for the UFT User Interface Pack Installation	58
Installing the Unified Functional Testing User Interface Pack	58
Troubleshooting and Limitations - Installing UFT	60
Accessing UFT in Windows 8 Operating Systems	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.

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.
- You cannot use a seat license for UFT on a computer running an operating system with terminal session capabilities, such as Windows servers or Citrix, a UFT installation on a terminal server, or a UFT installation on a virtual machine.

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 ["Installing Unified Functional Testing" on page 22](#).
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 66](#).
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 68](#).

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 *UFTLicSvr.pdf*.
2. Run the UFT setup program on each client computer. In the License Type screen, select **Concurrent License**. For more details, see "[Installing Unified Functional Testing](#)" on page 22.
3. Begin using UFT. When UFT opens, it automatically searches for the specified license server and connects to it.

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*.

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 48 for more details on the various options available in the UFT setup window.

Note: If the UFT installation directory is located on a network drive, the drive needs to be mapped before you run the installation. You cannot use the UNC (Universal Naming Convention) path to run the installation.

Due to a known Microsoft issue, if you are installing UFT from a mapped network drive and you are using a Remote Desktop connection, you may receive an error that prevents you from running the installation. To install UFT using a Remote Desktop connection, copy the installation directory to the local drive and run the installation locally.

3. Click **Unified Functional Testing Setup** to start the UFT Setup program.

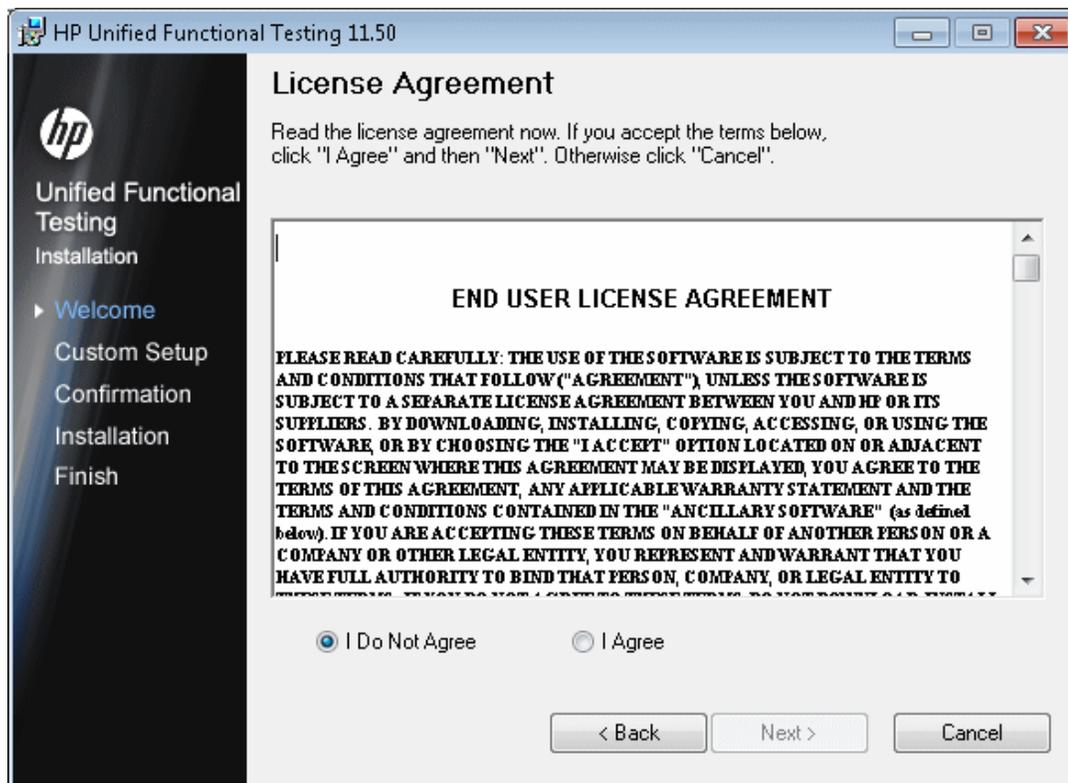
4. UFT requires specific software, for example, Microsoft Visual C++ Runtime components, to be installed before you install UFT. If Setup finds that the prerequisite software is not already installed on your computer, a screen opens listing the prerequisite programs.

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

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.

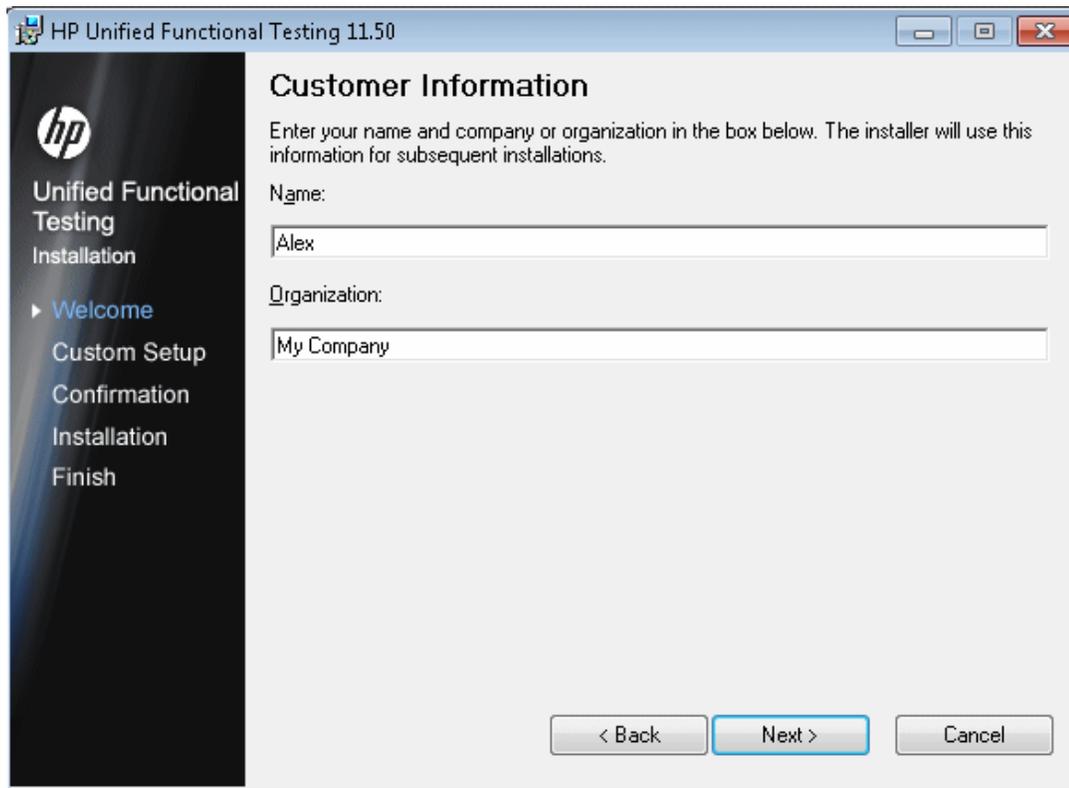
In some situations, you may be prompted to restart your computer after installing the prerequisite software. To continue with the installation after restarting your computer, run the Setup program again.

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.



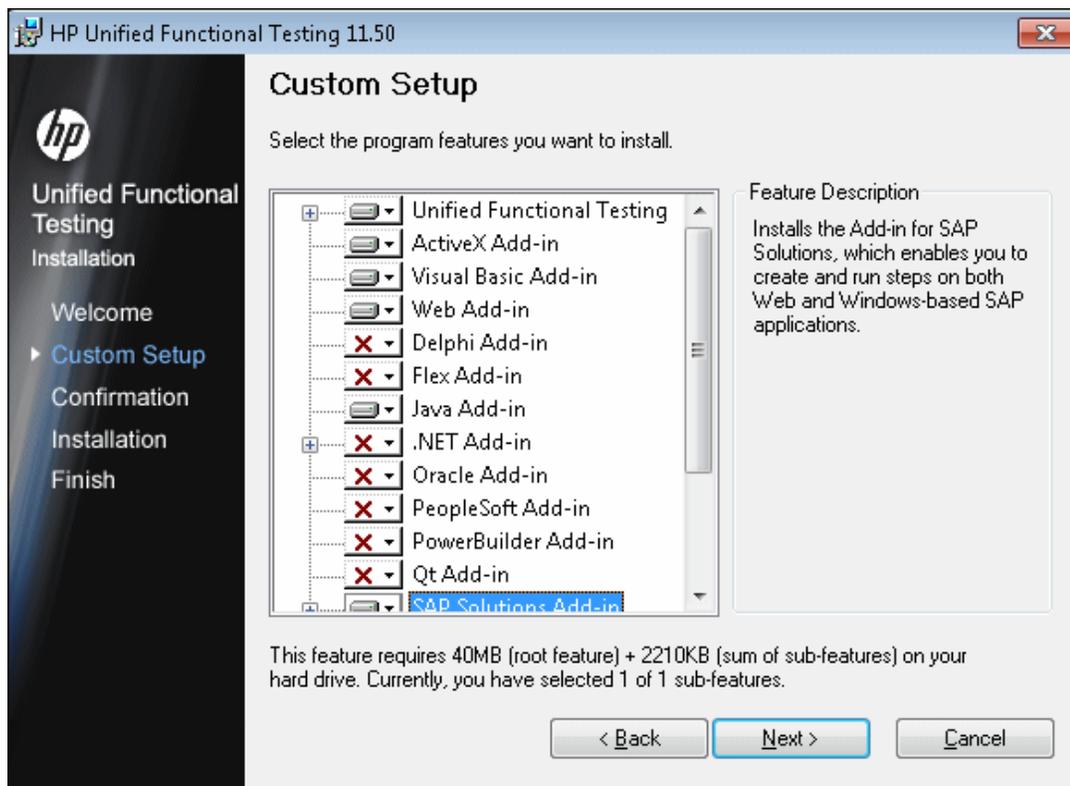
To install UFT, you must accept the terms of the license agreement by selecting **I Agree** and clicking **Next**.

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.

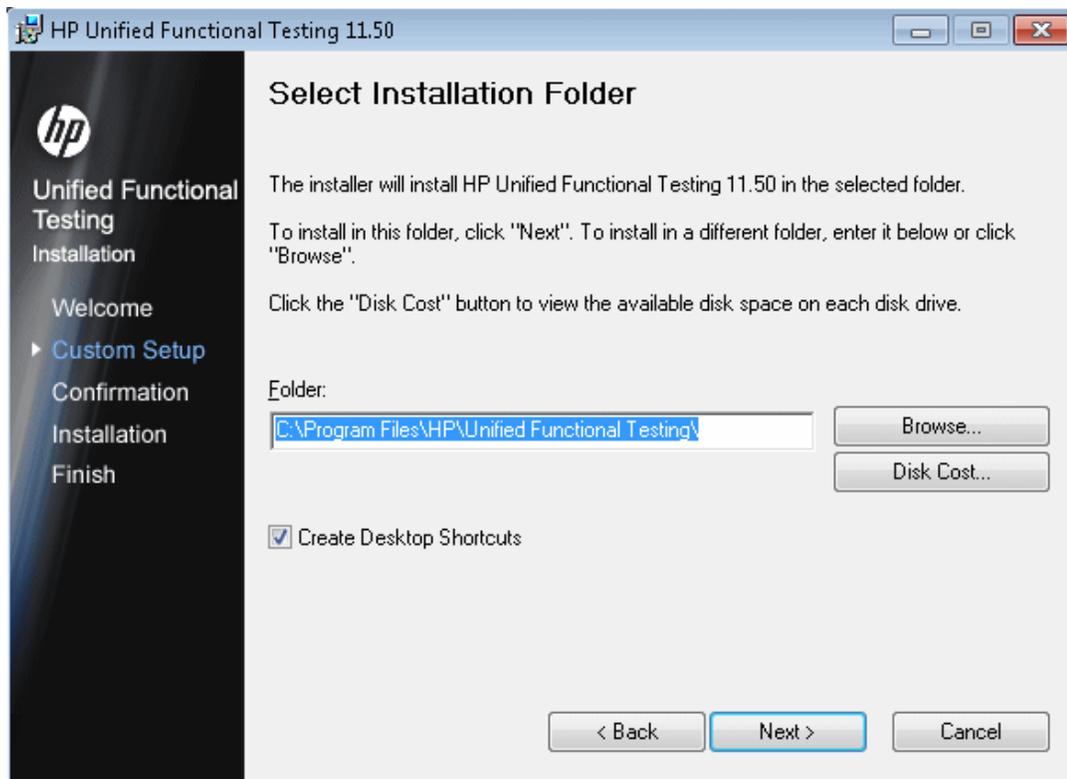
Click an icon to view a menu and select how that feature is installed on your computer. The following options are available, depending on the feature:

-  **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.

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

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. Skip the next step and continue to the Confirm Installation screen.

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**.

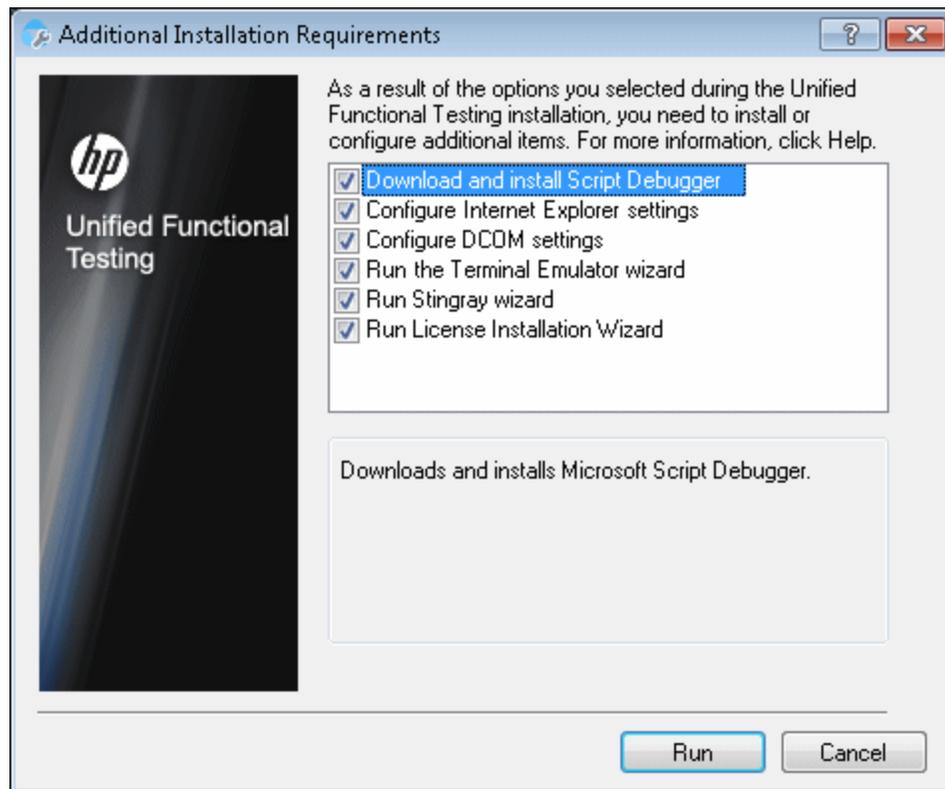
Ensure that you install UFT on a drive with a sufficient amount of free disk space. For more details, see the system requirements, as described in the *HP Unified Functional Testing Readme*.

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.



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.

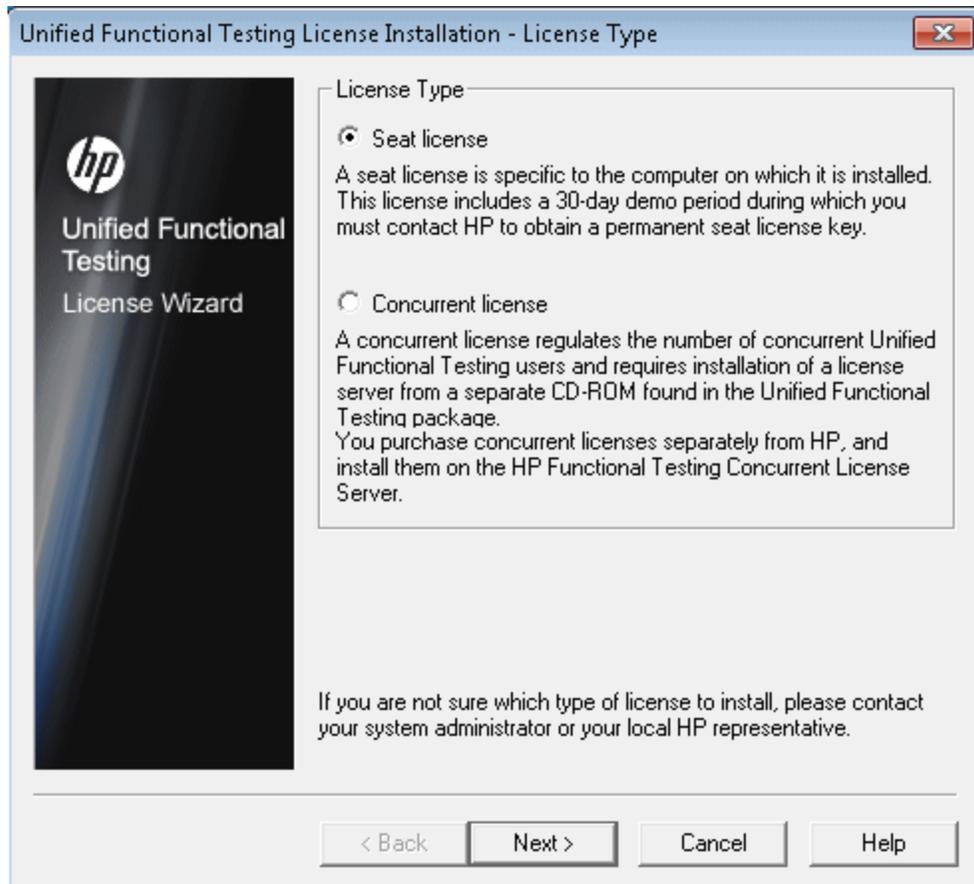
In addition to options to configure Internet Explorer and DCOM settings, and to run the License Wizard, the Additional Installation Requirements screen displays any prerequisite software that must be installed or configured to work with UFT, according to the options selected during installation.

Select the required installation options. For more details on these options, see "[Working with the Additional Installation Requirements Utility](#)" on page 34.

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

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 19. For details on working with licenses, see "[Working with UFT Licenses](#)" on page 63.)

- **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 66.

If you select **Seat license**, proceed to the next step and the Welcome screen.

- **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.

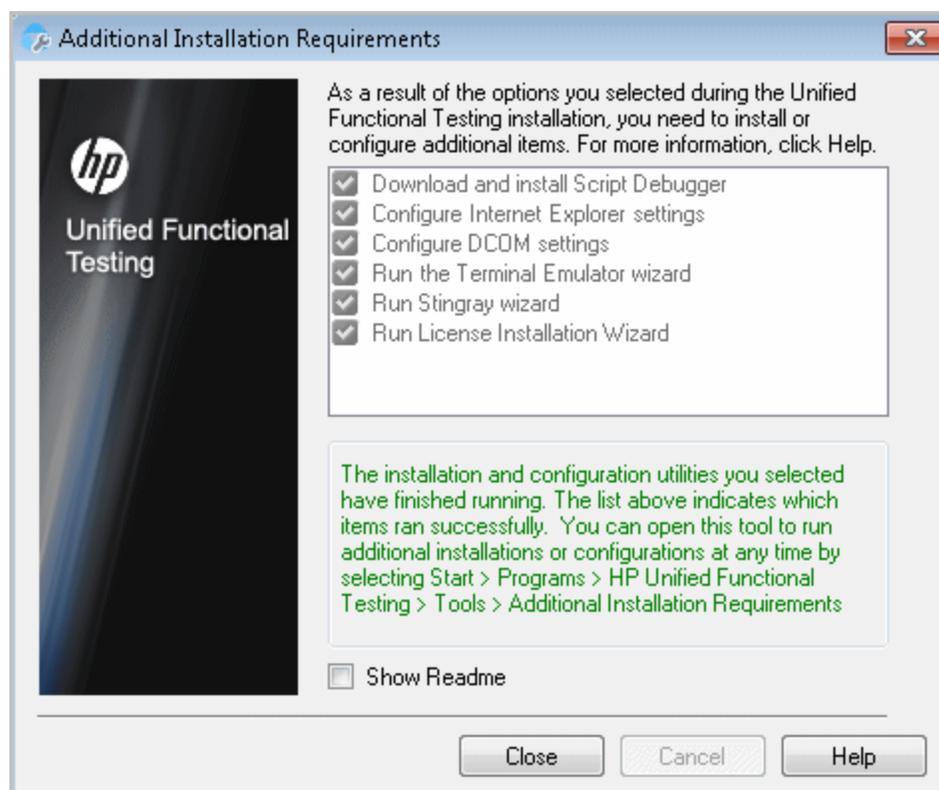


If you have a seat license key, install it using the License Key screen, as described in ["Installing a Seat License Key" on page 68](#).

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 Software Licensing Portal](#)" on page 67 and then click **Cancel**. (You will be prompted later 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**.

For details on accessing UFT and UFT tools and files in Windows 8, see "[Accessing UFT in Windows 8 Operating Systems](#)" on page 61.

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 the section on Additional Installation Prerequisites in the *HP Unified Functional Testing Installation Guide*.

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.

Note: For details on accessing UFT and UFT tools and files in Windows 8, see "[Accessing UFT in Windows 8 Operating Systems](#)" on page 61.

Other 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 *HP Unified Functional Testing Installation Guide*.

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**.

Note: For details on accessing UFT and UFT tools and files in Windows 8, see ["Accessing UFT in Windows 8 Operating Systems" on page 61](#).

- Make the required changes manually. For more information on making these changes manually, see the *HP Unified Functional Testing Installation Guide*.
- 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.

- **Configure DCOM settings for UFT.** Select this check box to automatically configure DCOM permissions and security settings that enable UFT to work with COM objects for API testing. This enables you to use Internet Explorer to navigate to a WSDL address.

You can also make these changes manually. For more information on making these changes manually, see the *HP Unified Functional Testing Installation Guide*.

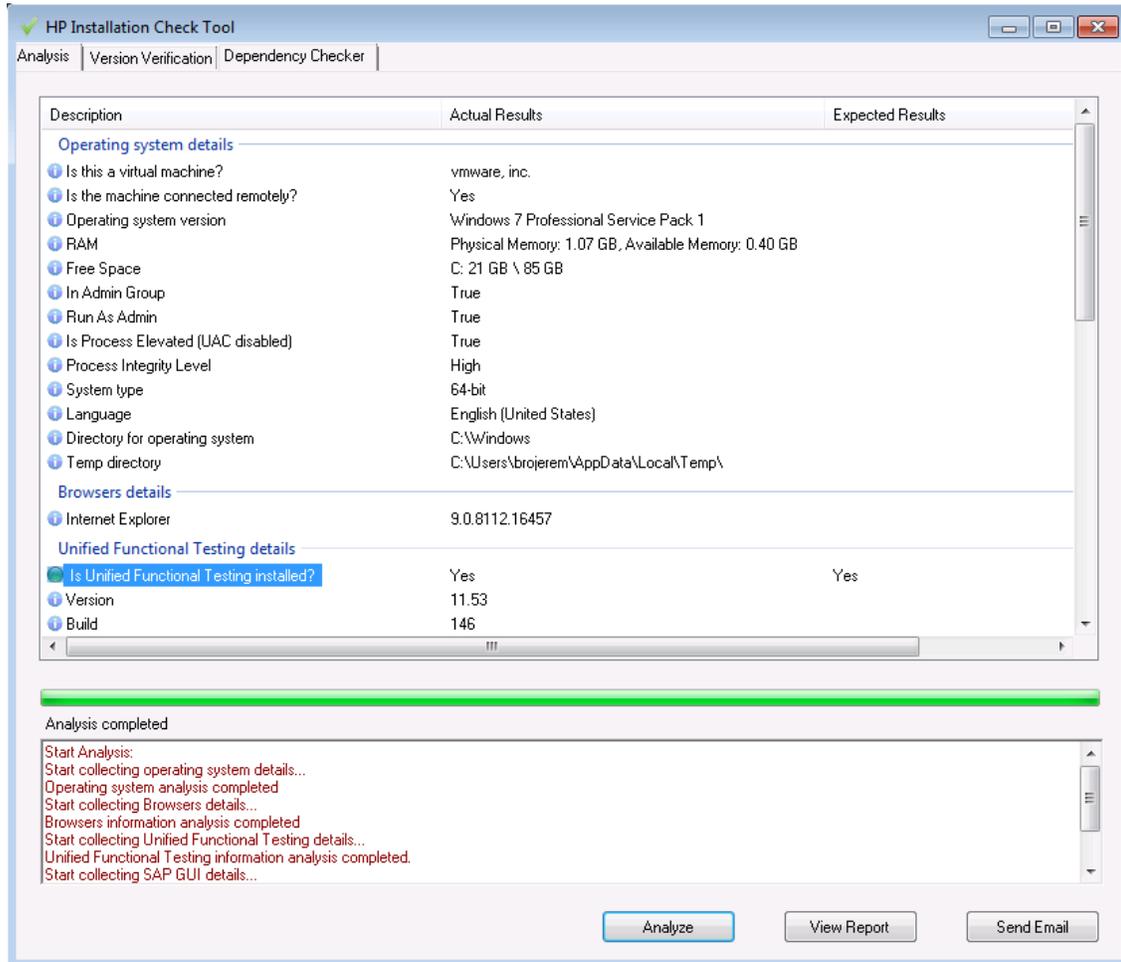
- **Run License Installation Wizard.** Select this check box to run the Unified Functional Testing License Wizard. If you want to run UFT using the demo license for up to 30 days, do not select this check box.

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.

Verifying the UFT Installation

After installing UFT and running the Additional Installation Requirements utility, you can check the status of the installation using the HP Installation Check Tool.

You can open the Installation Self-Check tool from the **Start** menu (**Start > All Programs > HP Software > HP Unified Functional Testing > Tools > HP Installation Validation Tool**).



The Installation Check Tool verifies a number of installation features:

Operating system details

- The virtualization of the computer running UFT
- Operating system version and properties
- The temp directory for the computer running UFT

Browser details

The versions of all installed browsers

UFT installation details

- UFT version
- The UFT build number

UFT Add-in installation details

- The available UFT add-ins
- The installation status of each add-in

UFT configuration settings

- If the option for other tools to run test or components is enabled
- If the option to show a warning for low speed connection is enabled
- If session cleanup is enabled

SAP GUI installation details

- The installation status of SAP GUI
- The version and patch number for SAP GUI
- If scripting is enabled for your SAP GUI

UFT tool dependencies information

- The version details for the UFT product functionality tools
- The file information for product functionality tools
- Dependencies between different product functionality tools

In some cases, the Installation Check tool validates the state of settings against their expected values. If UFT is returning the expected value, then the setting is marked in green, and if the value is not expected, the setting is marked in red.

You can also view this report as a .htm file by clicking **View Report** or you can send it via e-mail to another user by clicking **Send Email**.

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, Windows 7, or Windows 8.

You need to make these changes only if:

- You plan to execute UFT tests remotely as part of a Default ALM test set.
- You did not select the Configure DCOM Settings option during the installation process.

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 DCOM 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 40)
- Configure security settings for the Unified Functional Testing Remote Agent DCOM applications (described on page 44)
- Disable group-wide remote DCOM execution of UFT scripts (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. For users logged into both computers, add these 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

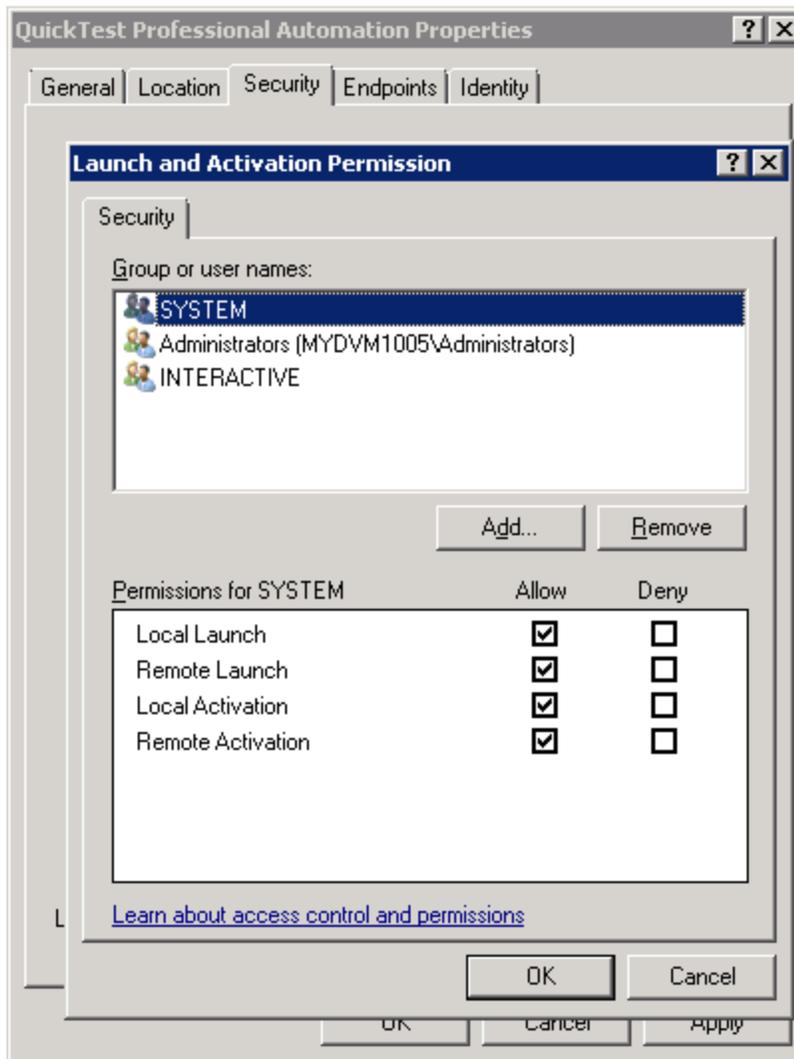
permissions and click **OK**.

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 disable group-wide remote DCOM execution of UFT scripts:

1. In the Component Services window, navigate to **Console Root > Component Services > Computers > My Computer > DCOM Config**.
2. Right-click the **QuickTestProfessional Automation** item and select **Properties**. The QuickTestProfessional Automation Properties dialog box opens.
3. Select the Security tab.
4. Select Customize and Click Edit. The Launch and Activation dialog box opens.
5. Select a group/user name from the list of groups/user names following for it:

6. In the Permissions list below, for **Remote Activation**, uncheck the **Allow** box.



7. Repeat steps 5 and 6 for each group/user name in the list.

To enable COM+ on a Windows 2008 or Windows 2012 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, Windows Server 2008 R2, Windows 8, and Windows Server 2012)

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.

For Microsoft Windows 8 and Windows Server 2012:

1. Log in as an administrator.
2. From the Control Panel, select **User Accounts and Family Safety > User Accounts > Change User Account Control Settings**.
3. In the User Account Control Settings window, move the slider to **Never notify**.
4. In the Control Panel, select **System and Security > Administrative Tools > Local Security Policy**.
5. In the Local Security Policy window, in the left pane, select **Local Policies**.
6. In the Local Policies tree, select **Security Options**.
7. In the right pane, select the **User Account Control: Run all administrators in Admin Approval mode** option.
8. Select **Action > Properties** from the menu bar.
9. In the dialog that opens, select **Disabled**.
10. Restart the computer for your changes to take effect.
11. After working with the desired tool, return to the User Account Control Settings window, and restore the slider to its previous position to turn the UAC option on again.
12. Restart the computer for your changes to take effect.

Unified Functional Testing Setup Window Options

The Unified Functional Testing Setup window contains the following options:

Option	Description
Unified Functional Testing Setup	Starts the UFT Setup program.
Installation Guide	Opens a PDF copy of the this guide, which is suitable for printing. To download Adobe, Reader click Download Adobe Reader .
Readme	Opens the <i>HP Unified Functional Testing Readme</i> file.
Unified Functional Testing Add-in for ALM Setup	<p>Enables features in the ALM client installed on your computer.</p> <p>If you do not install the Unified Functional TestingAdd-in for ALM, you can perform only the following UFT operations in ALM:</p> <ul style="list-style-type: none">• Running tests remotely.• Configuring test execution parameters. <p>To perform any other operations on UFT assets in ALM, you must install the Unified Functional Testing Add-in for ALM. For example, the add-in enables you to:</p> <ul style="list-style-type: none">• View test and component scripts from ALM.• View run results in the Run Results window from ALM.• Create new tests and components from ALM.• Perform other operations in ALM that involve UFT user interface elements. <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 (Help > Add-ins Page > More HP ALM Add-ins > Unified Functional Testing Add-in).</p> <p>Note: 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
Add-in Extensibility and Web 2.0 Toolkits	Enables you to install the following: <ul style="list-style-type: none">• Unified Functional Testing Java Add-in Extensibility SDK• Unified Functional Testing .NET Add-in Extensibility SDK• Unified Functional Testing WPF and Silverlight Add-in Extensibility SDK• Extensibility Accelerator for Functional Testing (includes Web Add-in Extensibility SDK)• Web 2.0 Toolkit Support
License Server Setup	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> .
Run Results Viewer Setup	Enables you to install the Run Results Viewer on your computer.
Download Adobe Reader.	Downloads Adobe Reader.
Contact HP	Opens the Enterprise software page on the HP Web site (http://www8.hp.com/us/en/software/enterprise-software.html?jumpid=ex_r11374_us/en/large/eb/go_software). Click Contact us in the upper right corner.
Support	Opens the HP Software Support Web site (http://support.openview.hp.com/).
Browse DVD	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.
- Object repository merge functionality, which is now available in the UFTGUI 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/hpssoftwaresupport>, also 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.
- For details on accessing UFT and UFT tools and files in Windows 8, see "[Accessing UFT in Windows 8 Operating Systems](#)" on page 61.

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	51
Prerequisite Software for ALM	52
Installing UFT Silently	53
Installing the UFT Add-in for ALM Silently	55
Silent installation commands	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
.NET Framework v4	DVD\prerequisites\dotnet40\dotnetfx40.exe/q /norestart/c:"install / q" /LCID
Microsoft Office Access database engine 2007	DVD\Unified Functional Testing\prerequisites\msade2007\ AccessDatabaseEngine.exe/ quiet
Microsoft WSE 2.0 SP3 Runtime	DVD\Unified Functional Testing\prerequisites\wse20sp3\ MicrosoftWSE2.0SPERuntime.msi/ quiet /norestart
Microsoft WSE 3.0 Runtime	DVD\Unified Functional Testing\ prerequisites\wse30\MicrosoftWSE3.0Runtime.msi/ quiet /norestart

Prerequisite	Silent Command Line Syntax
Visual Studio Tools for the Office System 3.0 Runtime	DVD\Unified Functional Testing\prerequisites\vstor30\vstor30.exe/ q
Microsoft Visual C++ Runtime Components	DVD\Unified Functional Testing\prerequisites\vc_2010_redist\vcredist_x86.exe/ q /norestart
Microsoft Visual C++ 2008 Run-time Components	DVD\Unified Functional Testing\prerequisites\vc2008_sp1_redist__V9030729\vcredist_x86.exe/ q / no restart
Microsoft Visual C++ 2010 Redistributable	DVD\Unified Functional Testing\prerequisites\vc2010_redist\vcredist_x86.exe/ q

Note: 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 software is installed.

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
Windows Installer 3.1	DVD\Unified Functional Testing\EN\prerequisites\msi31\WindowsInstaller-KB893803-v2-x86.exe /q /norestart
Microsoft .NET Framework 3.5 Service Pack 1	DVD\Unified Functional Testing\prerequisites\dotnet35_sp1\dotnetfx35_sp1.exe / qb /
Windows Imaging Component	DVD\Unified Functional Testing\prerequisites\dotnet40\wic_x86_enu.exe/ q /norestart
Microsoft Visual C++ 2005 SP1 Run-time Components	DVD\Unified Functional Testing\prerequisites\vc2005_sp1_redist\vcredist_x86.exe /q:a /c:."VCREDI~3.EXE /q:a /c:."msiexec /i vcredist.mis / qn" " "

Note: 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 items silently on your computer:

- UFT
- UFT Add-ins
- Partial install of the Additional Installation Requirements

Note: You must run the additional installation requirements utility separately if you are installing the Stingray Add-in or the Terminal Emulator Add-in. For details, see ["Additional installation requirements limitations" on page 55](#)

If you want to install the Unified Functional Testing Add-in for ALM, see ["Installing the UFT Add-in for ALM Silently" on page 55](#).

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 51](#). 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 57.

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"  
/1*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 34](#).

- The UFT Add-in for ALM is installed using a separate silent installation. For details, see ["Installing the UFT Add-in for ALM Silently" below](#).

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 the following format:

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

For a description of the silent installation commands, see "[Silent installation commands](#)" on the next page.

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:

```
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
ADDLOCAL (UFT core installation only)	<p>(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.</p> <div style="background-color: #f0f0f0; padding: 10px;"> <p>Note:</p> <ul style="list-style-type: none"> • If you do not use this argument, UFT is installed with the default add-ins. • You must include <code>Test_Results_Viewer</code>, <code>Web_Add-in</code>, <code>Samples</code>, and <code>Core_Components</code> in the <code>ADDLOCAL</code> command. • Values must be separated by commas and must not contain spaces. </div>
ConcurrentLicenseServer	(Mandatory) The name or IP address of the license server to specify when installing UFT licenses.
MsiFlags	(Optional) Any MSI options, flags, and other instructions that are not included in the <code>MsiProperties</code> arguments, such as logging commands.
MsiProperties	(Optional) Any MSI properties or parameters, such as <code>TARGETDIR</code> . Each MSI property and its definition must be contained in quotes (") and must not contain spaces.
ALM_Plugin_File (UFT Add-in for ALM installation only)	<p>(Mandatory) The name of the MSI installation file.</p> <div style="background-color: #f0f0f0; padding: 10px;"> <p>Note: There is a different MSI file for each available user interface language.</p> </div>
UFT_DVD_Path	The path to the UFT Installation DVD or network location. The UFT .bat file is located on the installation DVD in the root folder.
UFTSilentInstaller	The name of the UFT silent installation .bat file.

For details on silent installation, see:

- ["Installing UFT Silently" on page 53](#)
- ["Installing the UFT Add-in for ALM Silently" on page 55](#)

Unified Functional Testing User Interface Pack Installation

The Unified Functional Testing User Interface Pack enables you to view 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 HP Functional Testing Concurrent License Server.

This section includes:

Prerequisites for the UFT User Interface Pack Installation	58
Installing the Unified Functional Testing User Interface Pack	58

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 22](#).
- 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 48](#).

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

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 HP 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 the previous page.
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 Limitations" below](#)
- ["Operating Systems" below](#)
- ["User Interface Pack" below](#)
- ["Upgrading from QuickTest Professional" on the next page](#)
- [" Troubleshooting and Limitations - Installing UFT" above](#)

General Limitations

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

Workaround: After uninstalling 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, Server 2008 R2, Windows 8, or Windows Server 2012, 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 \(Windows Vista, Windows 7, Windows Server 2008, Windows Server 2008 R2, Windows 8, and Windows Server 2012\)" on page 46.](#)

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 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 Editor

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 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.

Accessing UFT in Windows 8 Operating Systems

Relevant for: GUI tests and components and API testing

UFT applications and files that were accessible from the **Start** menu in previous versions of Windows are accessible in Windows 8 from the **Start** screen or the **Apps** screen.

- **Applications (.exe files).** You can access UFT applications in Windows 8 directly from the **Start** screen. For example, to start UFT, double-click the **HP Unified Functional Testing**

shortcut .

Other examples of applications accessible from the **Start** screen include:

- The Run Results Viewer
- All UFT tools, such as the Password Encoder and the License Validation Utility

- The API testing sample Flight applications
- **Non-program files.** You can access documentation and the link to the Mercury Tours Website from the **Apps** screen.

Note: By default, the Start and Apps screens on Windows 8 are set to open Internet Explorer in Metro Mode. However, if User Account Control is turned off on your computer, Windows 8 will not open Internet Explorer in Metro mode. Therefore, if you try to open an HTML shortcut from the Start or Apps screen, such as the UFT Help or Readme file, an error will be displayed.

To solve this, you can change the default behavior of Internet Explorer so that it never opens in Metro mode. In the **Internet Properties** dialog box > **Programs** tab, select **Always in Internet Explorer on the desktop** for the in the **Choose how you open links** option. For more details, see <http://support.microsoft.com/kb/2736601> and <http://blogs.msdn.com/b/ie/archive/2012/03/26/launch-options-for-internet-explorer-10-on-windows-8.aspx>.

Chapter 3: 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	65
Requesting a Seat License Key	66
Requesting a License Key via the HP Software Licensing Portal	67
Installing a Seat License Key	68
Working with a Concurrent License	74
Modifying License Information	79
Working with Commuter Licenses	81
Checking Out a Commuter License	81
Checking In a Commuter License	83
Obtaining a Commuter License Remotely	84
Validating UFT Licenses	91
License Information	93
Validation Checks	94
Copying your License Validation Result to the Clipboard	94
Troubleshooting and Limitations - Working with Licenses	95
Troubleshooting Concurrent Licensing Issues	95
There is no network connection between the server and client computers	95
The license server is not running	96
Licenses are not installed on the license server	96
The license key file (lservrc) cannot be found on the server	96
The license server is being used by the maximum number of users	97
Two or more versions of the license server are running	97
The client computer is configured to use a seat license	97
The license key does not match the license server locking code	97
The client computer cannot identify the license keys on the server computer	98
The LSHOST or LSFORCEHOST variables are not set	99
The LSERVRC system variable is set on the client computer	99

The client computer connects through VPN software99

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.
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.
Maintenance number	The license key is based partially on the maintenance number. The maintenance number identifies the customer.	The license key is based partially on the maintenance number. The maintenance number identifies the customer and indicates how many concurrent users the license supports.
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>Note: 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 91](#).

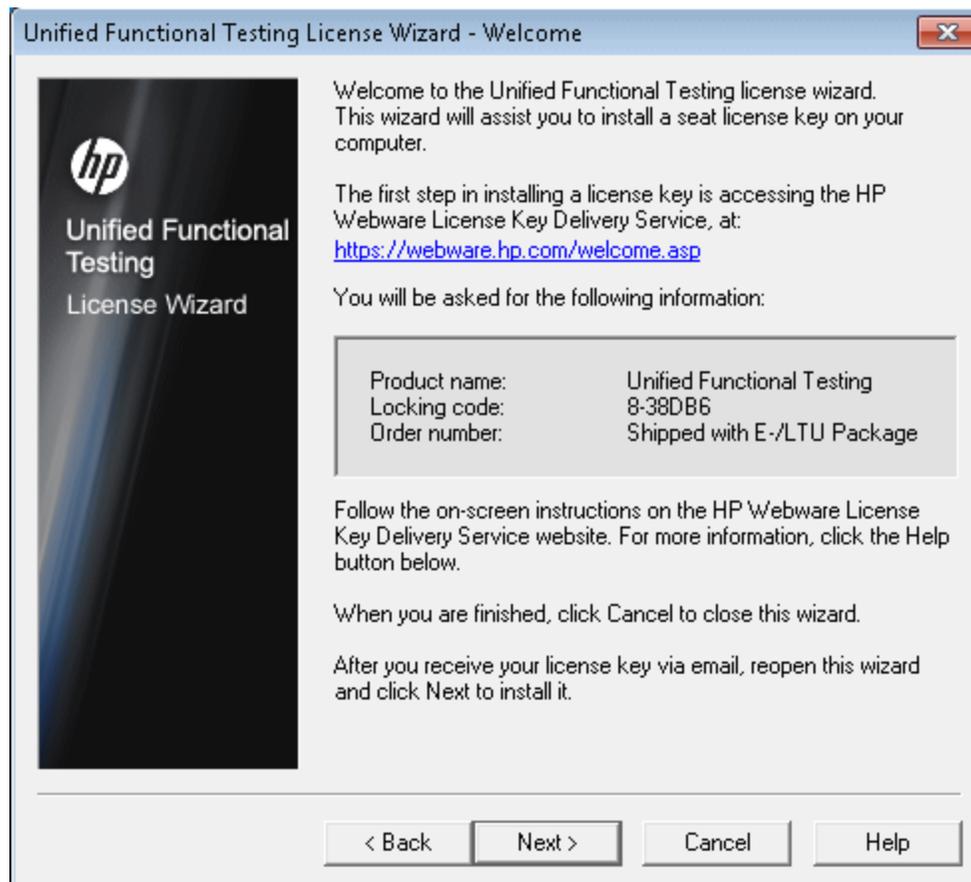
Requesting a Seat License Key

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 Software Licensing Portal](#)" on the next page.

Requesting a License Key via the HP Software Licensing Portal

The HP Software Licensing Portal assists you in requesting a license key.

For details on the various areas of the portal, see the links under the **Resources** section on the left side of the Web page, such as the tutorial or the how-to demos.

To request a license key:

Request your license key as described in the HP Software License Activation Quick Start Guide, available from the **Resources** area of the HP Software Licensing Portal.

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.

Caution:

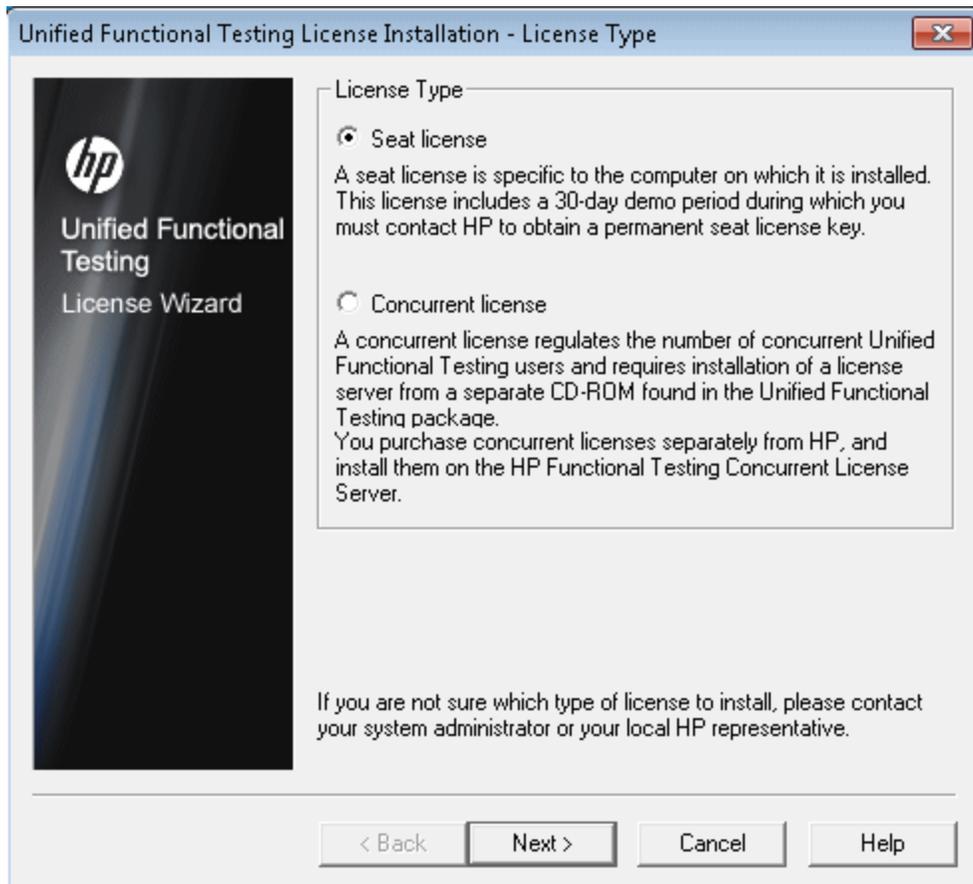
- You must have Administrator privileges to install a license key.
- After installing the seat license key, do not change your computer's date or time. This triggers a **Clock Tamper** lock on the license information, preventing you from using the license.

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.

The License Type screen opens.

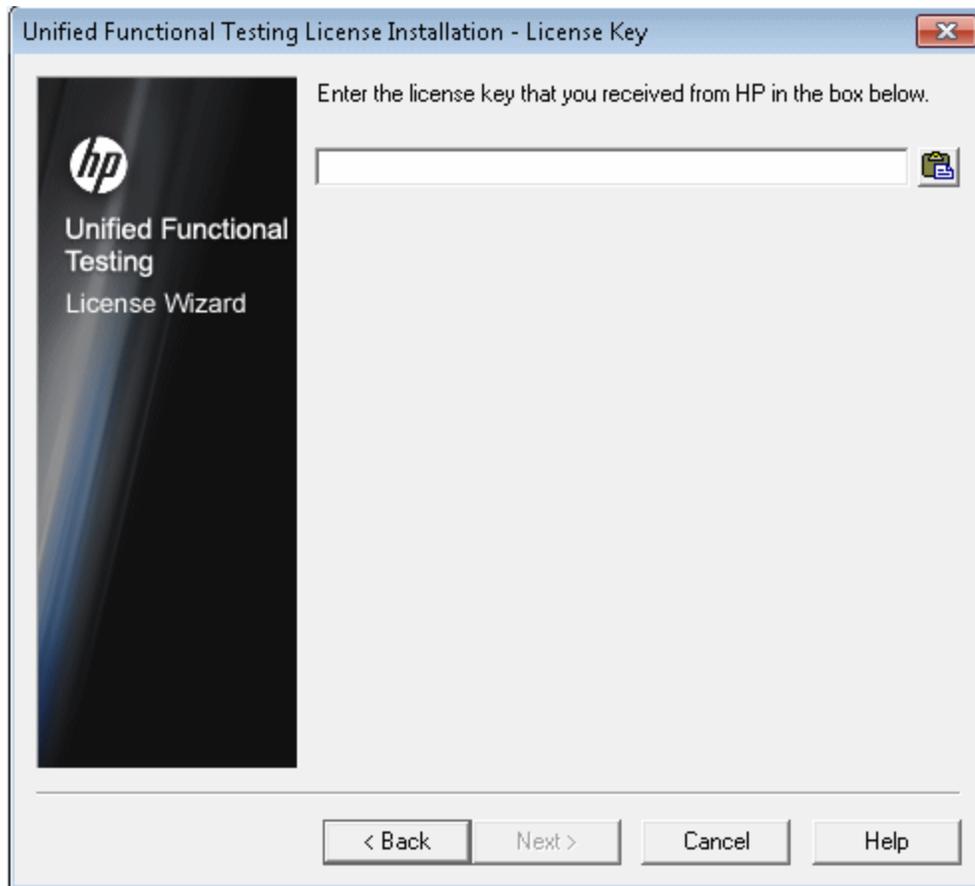


2. Select **Seat license** and click **Next**. In the confirmation box, click **Yes** to install a new license key. The Welcome screen opens.



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

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

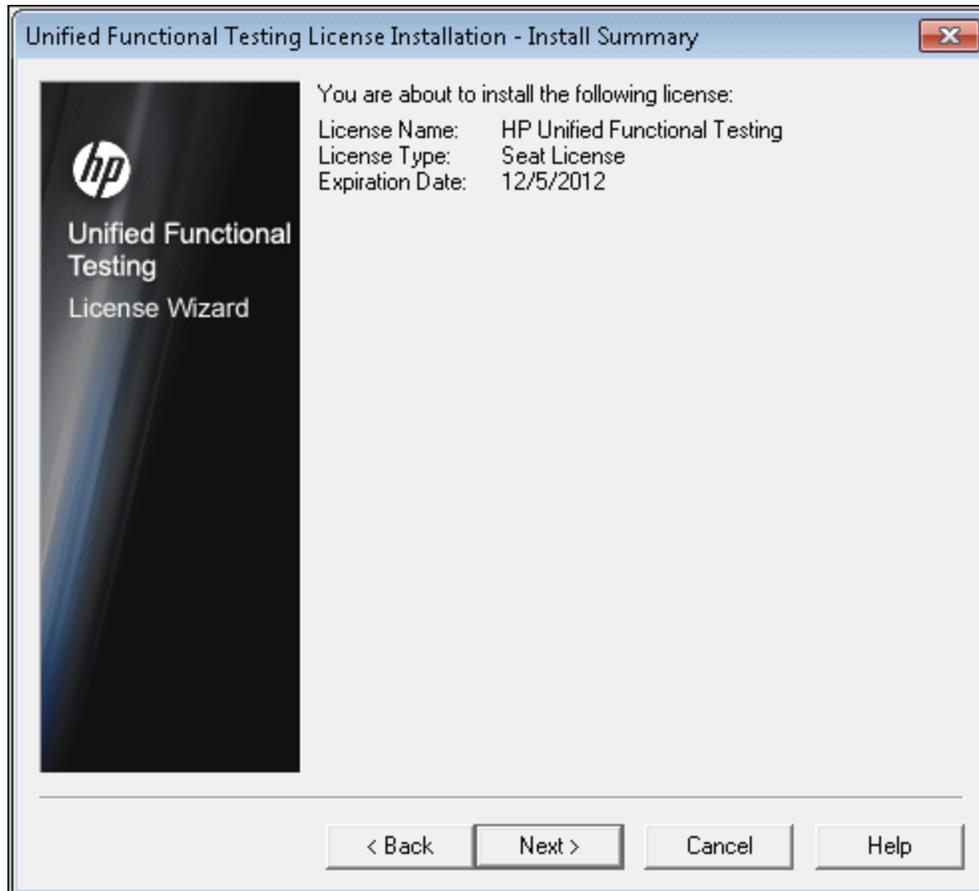


Notes:

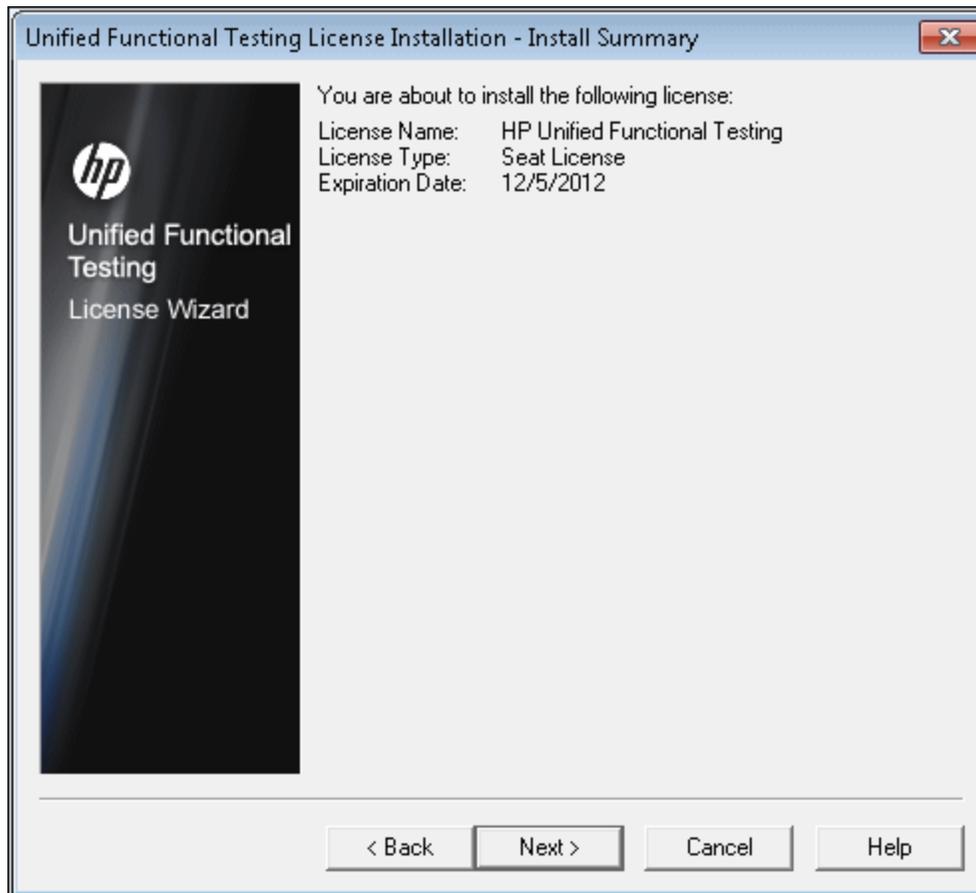
- The license key is valid only for the computer with the locking code that you entered in the HP Software Support license request form.
- A computer with multiple bootable partitions may generate a different locking code for each partition. If a different locking code is generated for a partition, you need to request a unique license key for it.
 - i. 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.
 - ii. Copy the license key (with or without the # character) from the .dat file to the clipboard.
 - iii. Paste the key into the License Installation - License Key screen by clicking the **Paste From Clipboard** button .

Do the following:

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 performing this task again.

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*.

Note: You can also specify a concurrent license server during the UFT installation procedure. For more details, see ["Installing Unified Functional Testing" on page 22](#).

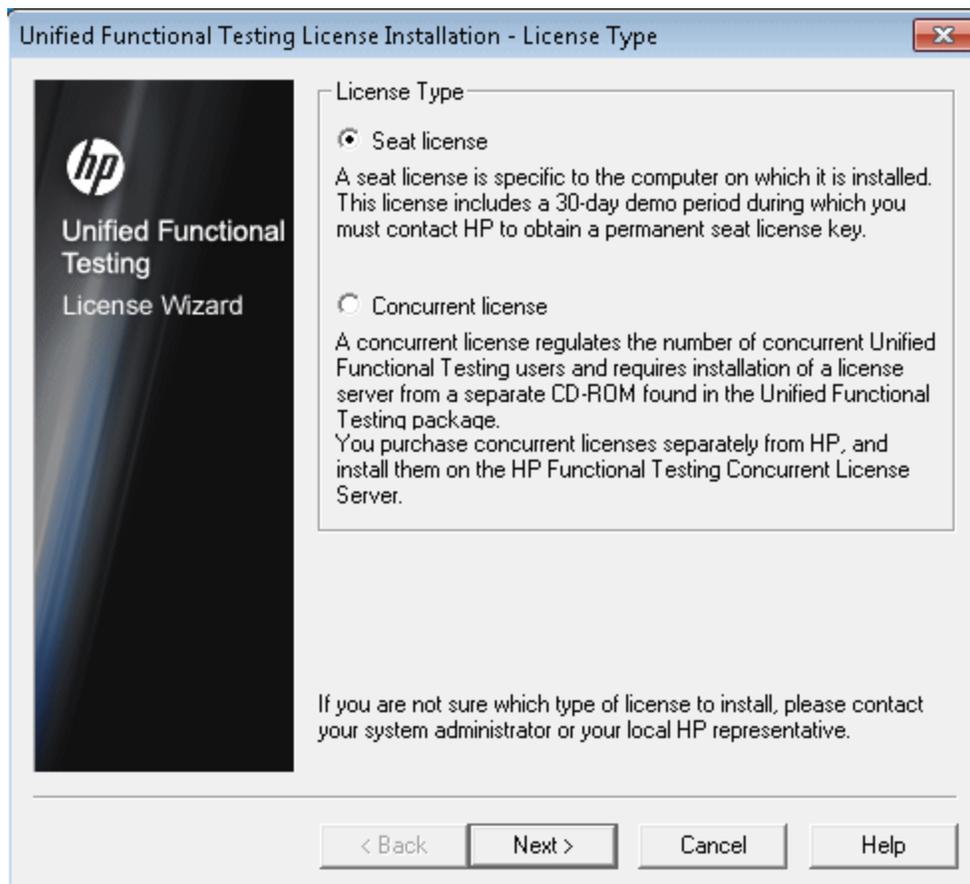
To work with a concurrent license:

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**.

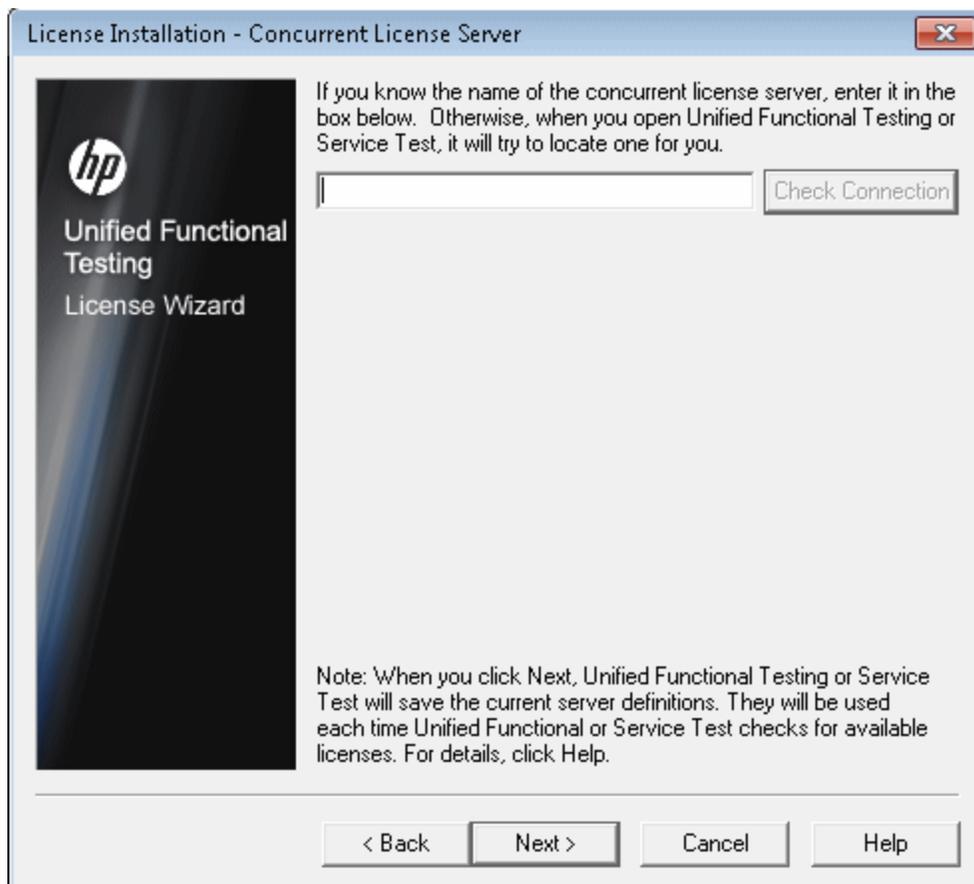
Note: For details on accessing UFT and UFT tools and files in Windows 8, see ["Accessing UFT in Windows 8 Operating Systems" on page 61](#).

- From within UFT, select **Help > License Wizard**.

The License Type screen opens.



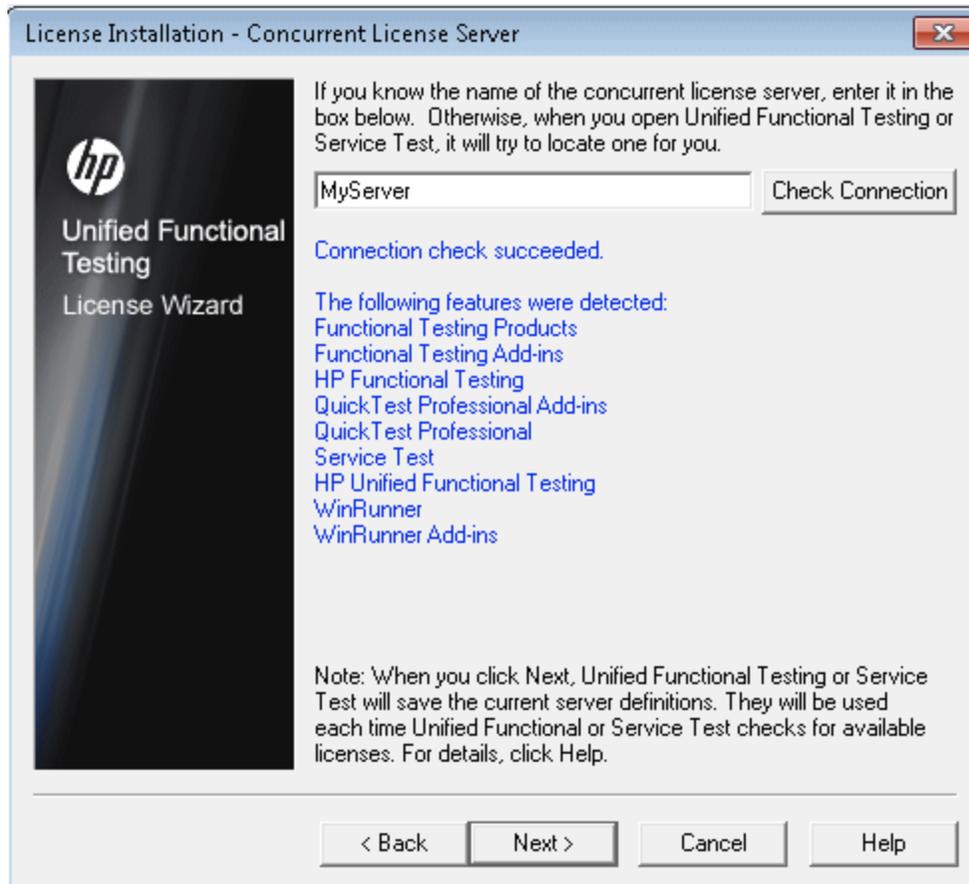
2. Select **Concurrent license** and click **Next**. The Concurrent License Server screen opens.



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*.

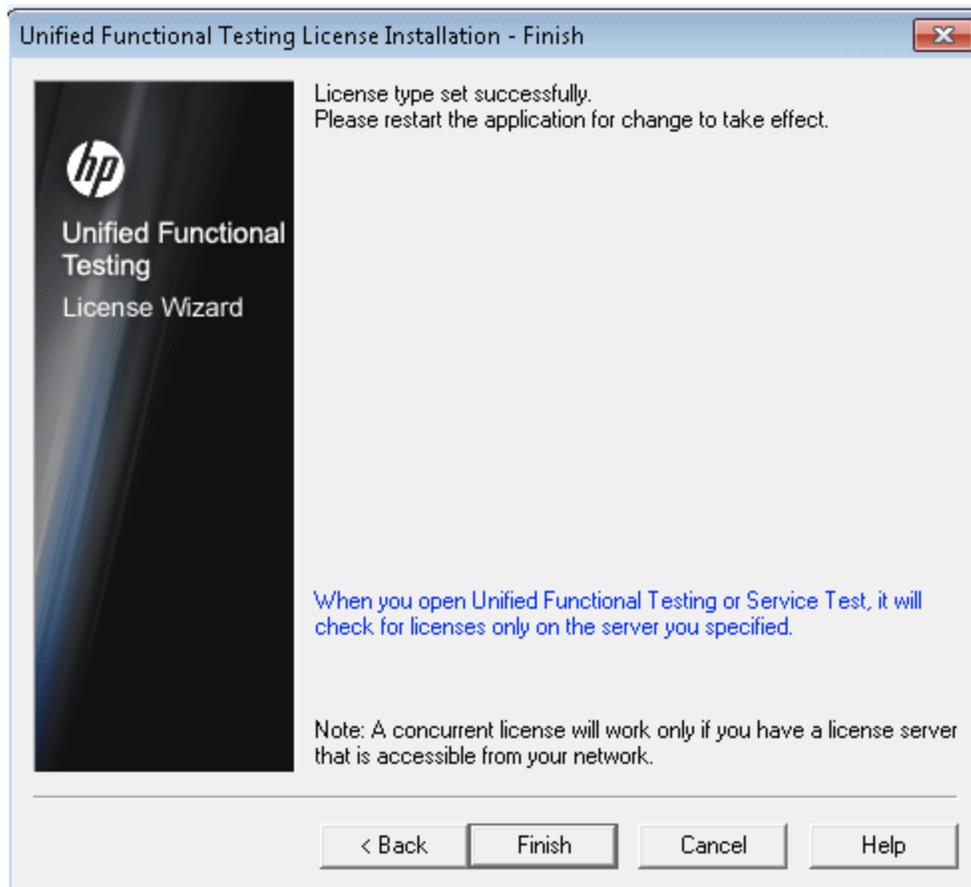
4. Click **Check Connection**. If UFT can connect to the concurrent license server, a success message is displayed



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

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.

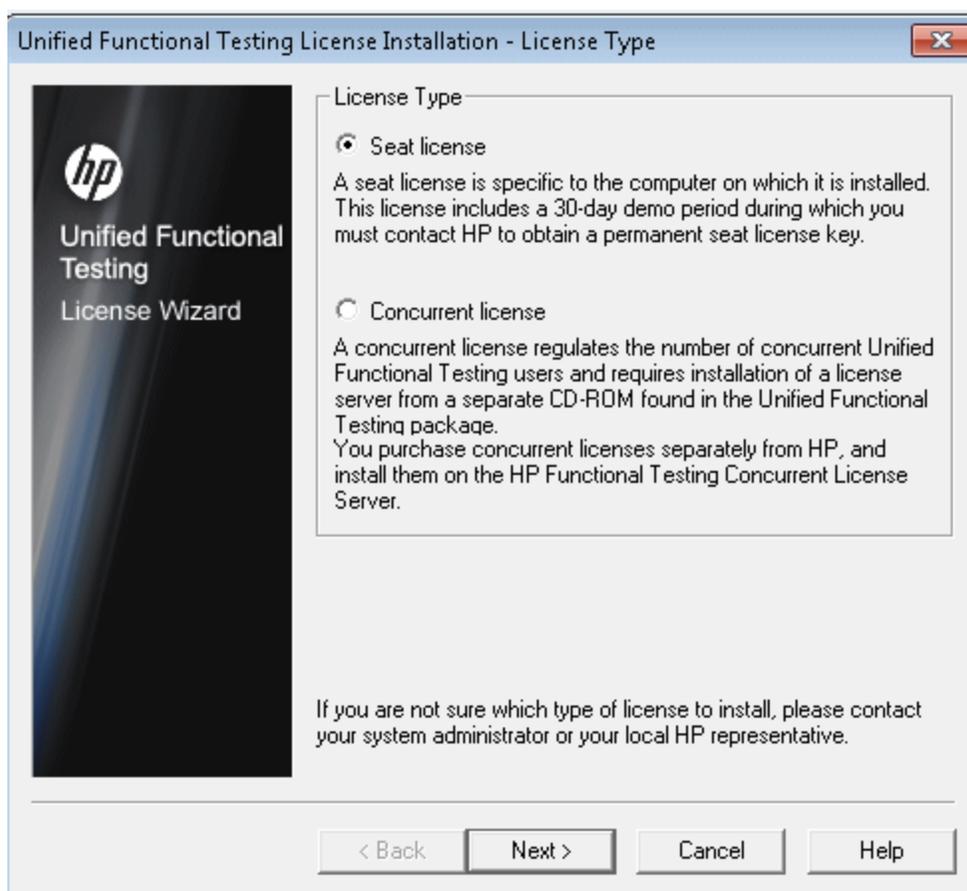
Modifying License Information

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 66](#).

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**.

- 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" on page 68](#).

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" on page 74](#).

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.

For more details, see ["Checking Out a Commuter License" below](#) , and ["Checking In a Commuter License" on page 83](#).

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 84](#).

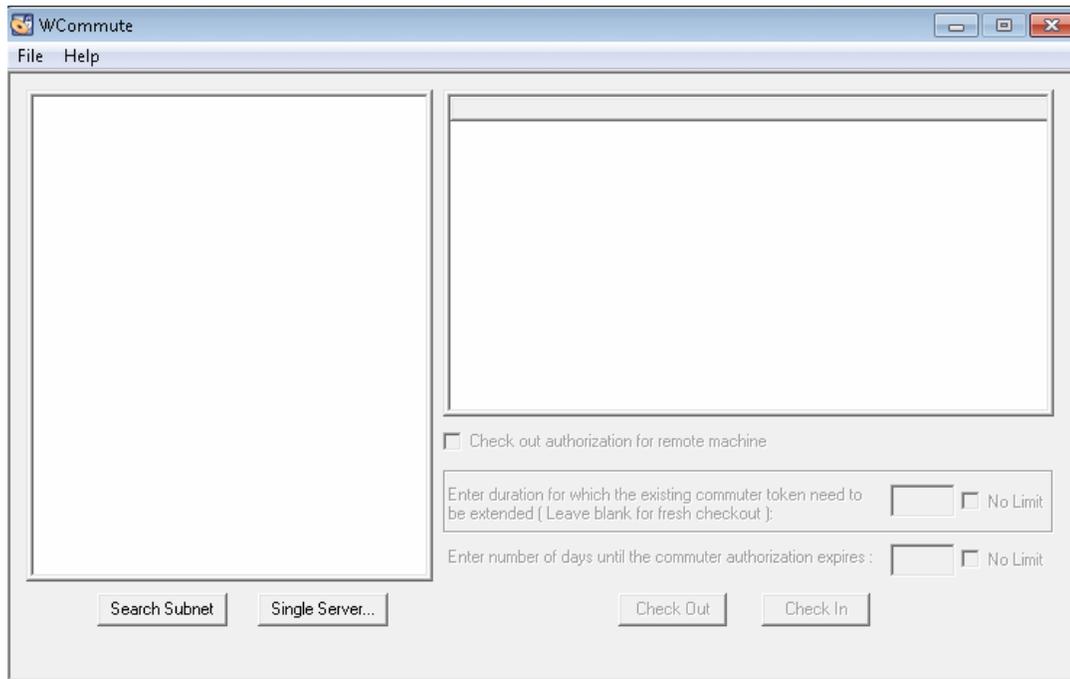
Note: If you have upgraded to HP Functional Testing Concurrent License from a version earlier than 7.6, you need to request a new server license key to enable the commuter licensing functionality. For details, contact HP Software Support or your local representative.

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.

- 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 79](#).

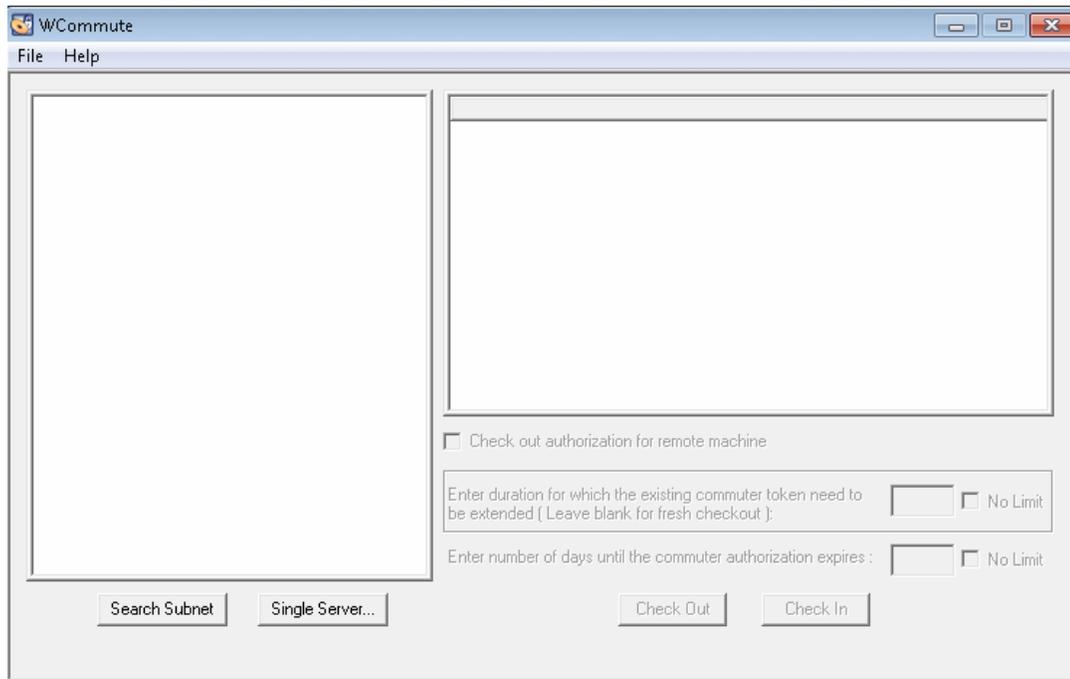
Checking In a Commuter License

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.

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 "[Checking Out a Commuter License](#)" on page 81. 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.

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 79.

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](#)" below.
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 87.
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 89.
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 79.

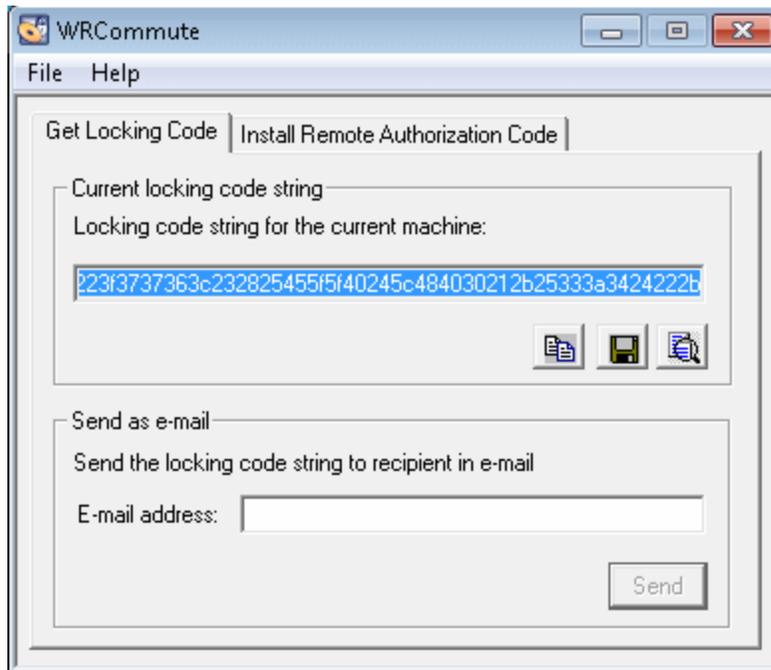
Step 1: Generating a Remote Computer Locking Code

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**.

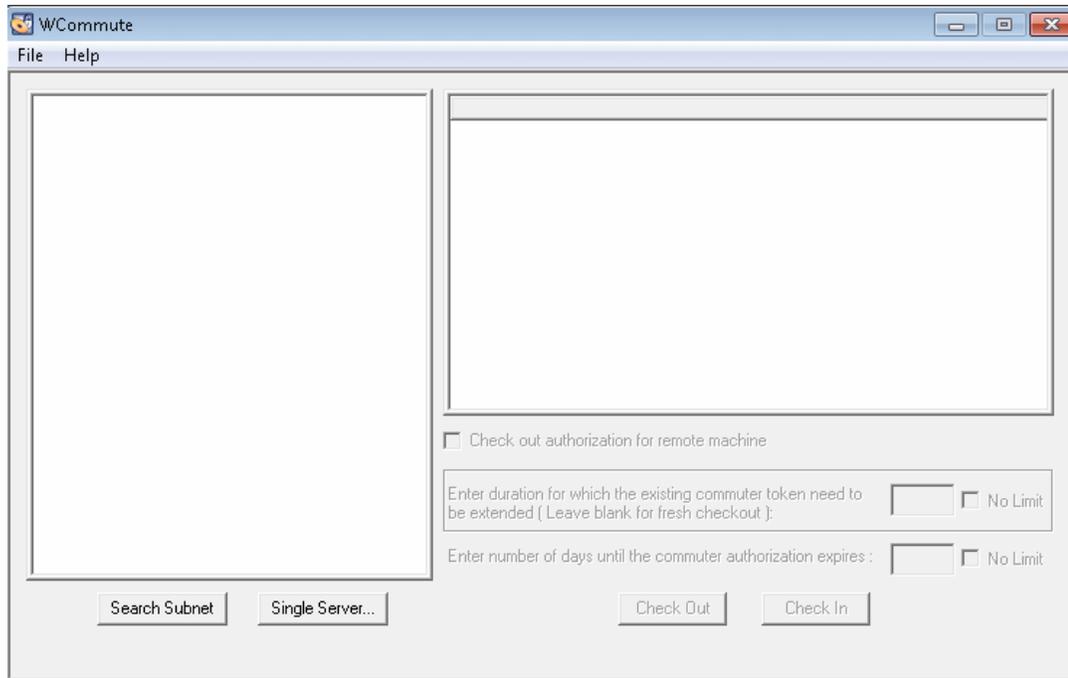
Note: This option is supported only if Microsoft Outlook Express is set up as your e-mail client.

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 "[Checking Out a Commuter License](#)" on page 81.

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.

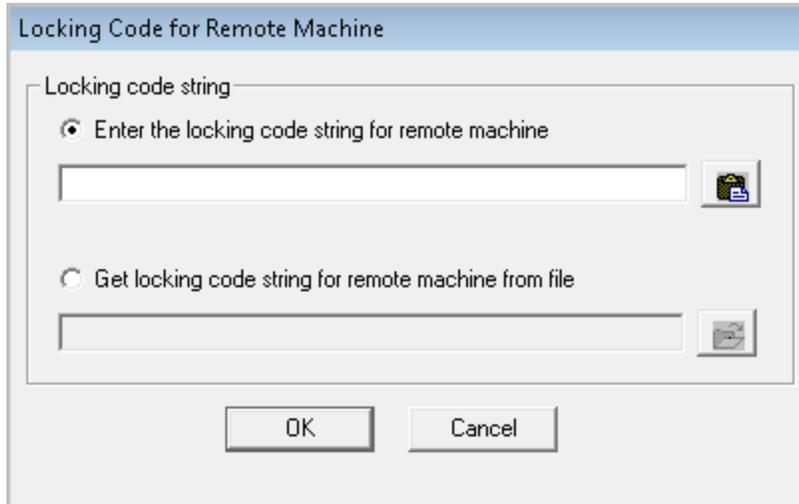
Note:

- 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.

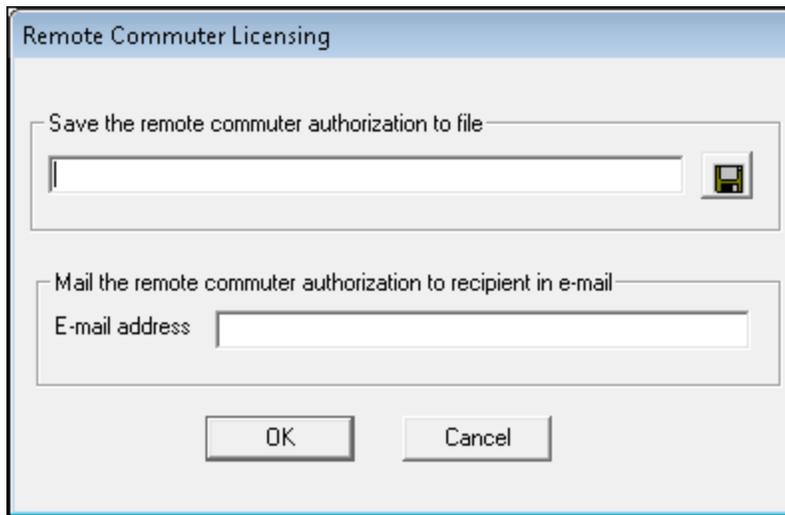
6. Click **Check Out**. The Locking Code for Remote Machine dialog box opens.



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.

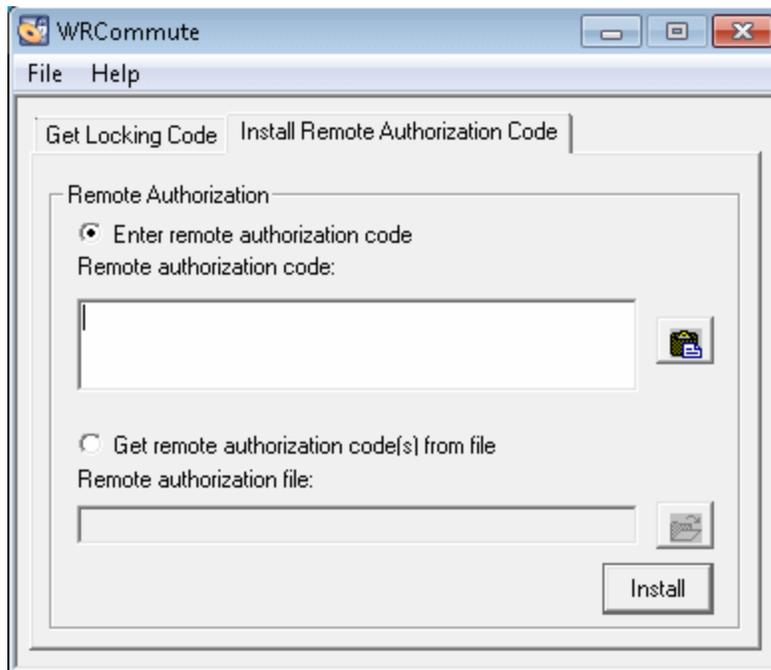
Step 3: Installing a Commuter License on a Remote Computer

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 79.

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 79.

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:

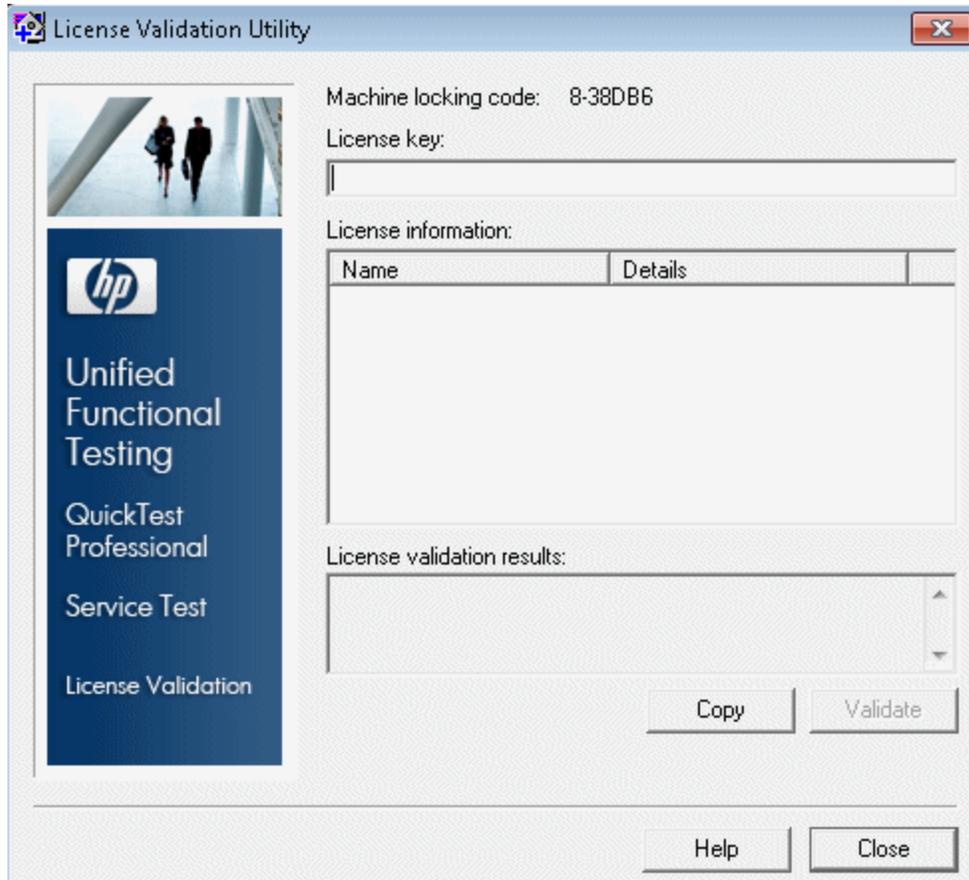
- ["To decode and validate a license:" below](#) and retrieves important information regarding the license. For more details, see ["License Information" on page 93](#).
- ["To decode and validate a license:" below](#) according to a predefined set of checks. For more details, see ["Validation Checks" on page 94](#).

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 94](#).

To decode and validate a license:

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

Note: For details on accessing UFT and UFT tools and files in Windows 8, see ["Accessing UFT in Windows 8 Operating Systems"](#) on page 61.



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 `1servrc` file. The location of this file is specified by the **1servrc** environment variable.

Tip:

- 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 `1servrc` 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

LSEVRRC variable. For example, %CommonProgramFiles%\HP\License Manager\lserverc.

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

License information is displayed in the **License information** area. For more details, see "[License Information](#)" below.

The result of the validation is displayed in the **License validation results** area. For more details, see "[Validation Checks](#)" on the next page.

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 the next page.
5. Click **Close** to close the utility.

License Information

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

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

- **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 81](#).

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 and Limitations - Working with Licenses

UFT cannot open with a license that was installed with Service Test 9.53.

Workaround: Reinstall the license using the UFT License Manger, available from the Start menu.

For details on accessing UFT tools and files in Windows 8, see "[Accessing UFT in Windows 8 Operating Systems](#)" on page 61.

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	95
The license server is not running	96
Licenses are not installed on the license server	96
The license key file (lservrc) cannot be found on the server	96
The license server is being used by the maximum number of users	97
Two or more versions of the license server are running	97
The client computer is configured to use a seat license	97
The license key does not match the license server locking code	97
The client computer cannot identify the license keys on the server computer	98
The LSHOST or LSFORCEHOST variables are not set	99
The LSERVRC system variable is set on the client computer	99
The client computer connects through VPN software	99

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, you can enter the following command: `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**.

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\ 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 at <http://h20230.www2.hp.com/selfsolve/document> (requires an HP Passport user name and password).

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 79.

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 `lservnc` file (`<drive>\Program Files\Common Files\SafeNet 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.

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 at <http://h20230.www2.hp.com/selfsolve/document> (requires an HP Passport user name and password).

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.

Chapter 4: 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.

This chapter includes:

Installing and Uninstalling Specific UFT Features	101
Repairing Your UFT Installation	103
Uninstalling UFT	104
Troubleshooting and Limitations - Uninstalling UFT	105

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.

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 22.

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 TestingSetup**. 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 34.

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 TestingSetup**. 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. Afterward, 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 101.
- 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.

5. The uninstall program removes all UFT features from your computer (including any UFT add-ins).
6. 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

1. Select **Start > All Programs > HP Software > HP Unified Functional Testing > Tools > HP Micro Player** to open the HP Micro Player.
2. 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.

We appreciate your feedback!

If you have comments about this document, you can [contact the documentation team](#) by email. If an email client is configured on this system, click the link above and an email window opens with the following information in the subject line:

Feedback on Unified Functional Testing, 11.50 Installation Guide

Just add your feedback to the email and click send.

If no email client is available, copy the information above to a new message in a web mail client, and send your feedback to DocTeam_UFT@hp.com.

