QACenter

Installation and Configuration Guide

Release 4.4.2

COMPUWARE®

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Please direct questions about *QA*Center
or comments on this document to:

_QA_Center Technical Support
Compuware Corporation
31440 Northwestern Highway
Farmington Hills, MI 48334-2564

1-800-538-7822

Outside the USA and Canada, please contact
your local Compuware office or agent.

Doc. CWQCIXX4F
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Table of Contents

Introduction

The *QA*Center Installation and Configuration Guide provides information and procedures to install the following *QA*Center products:

- *QA*Run
- *QA*Director (32-bit version)
- WebCheck
- *QA*Load
- *QA*Director (16-bit version)
- *QA*Track
- Compuware Central.

This guide also provides information on how to install temporary and permanent licenses for those products. Please note that Compuware Central does not require a license. If you are only installing Compuware Central you may skip the licensing chapters and proceed to Chapter 8, "Installing Compuware Central".

Note

To install TrackRecord, refer to the TrackRecord *Installation Guide*. For information and support for *QA*TrackRecord, contact *QA*Center Technical Support at 1-800-538-7822.

Who Should Read This Guide

The *QACenter Installation and Configuration Guide* is intended for administrators who will be installing *QA*Center products. This guide does not contain reference or usage information. You can find that information in your product's online help facility and documentation set.

Compuware assumes that you have some familiarity with basic Microsoft Windows navigation. If this is not the case, familiarize yourself with the documentation for Microsoft Windows before reading this guide.

Related Publications

In addition to the *QACenter Installation and Configuration Guide* and the *TrackRecord Installation Guide*, each *QA*Center product includes its own online help system and documentation set.

Viewing and Printing Online Books

*QA*Center's online books are provided in PDF format, so you need Adobe Acrobat Reader 3.0 or above to view them. To install the Adobe Acrobat Reader, click **Install Adobe Acrobat Reader** on the *QA*Center CD, or go to Adobe's Web site at www.adobe.com.

You can access the PDF versions of the *QACenter Installation and Configuration Guide* and the TrackRecord *Installation Guide* from an installation bookshelf available from the QACenter CD browser.

You can access each product's online books from the product's documentation bookshelf. For example, if you have *QA*Run installed and you wish to access the *QA*Run *User's Guide,* click the taskbar's **Start** button and choose **Programs>Compuware>QARun >QARun Books>QARun Bookshelf**. Select the *QA*Run *User's Guide* from the list.

Because PDF is based on PostScript, a PostScript printer is the most reliable way to print the online books. In most cases, you can also print PDF files to PCL printers. If you cannot print the PDF files to your printer, refer to Adobe's web site at www.adobe.com for troubleshooting information.

World Wide Web Information

To access Compuware Corporation's site on the World Wide Web, point your browser at http://www.compuware.com. The Compuware site provides a variety of product and support information.

FrontLine Support Web Site: You can access online technical support for Compuware products via our FrontLine support Web site at http://frontline.compuware.com. FrontLine provides fast access to critical information about your *QA*Center product. You can read or download documentation, frequently asked questions, and product fixes, or e-mail your questions or comments. The first time you access FrontLine, you are required to register and obtain a password.

Getting Help

At Compuware, we strive to make our products and documentation the best in the industry. Feedback from our customers helps us maintain our quality standards. If you need support services, please obtain the following information before calling Compuware's 24-hour product support hotline:

- The name, release (version), and build number of the *QA*Center product. This information is displayed when you select the About command from your product's Help menu. The name and release are also on the covers of the product documentation.

- Installation information, including installed options, whether the product uses local or network databases, whether it is installed in the default directories, whether it is a standalone or network installation, and whether it is a client or server installation.

- Environment information, such as the operating system and release on which the product is installed, memory, hardware/network specifications, and the names and releases of other applications that were running.

- The location of the problem in the *QA*Center product software, and the actions taken before the problem occurred.

- The exact product error message, if any.

- The exact application, licensing, or operating system error messages, if any.

- Your Compuware client, office, or site number, if available.

_QA_Center Technical Support
Compuware Corporation
31440 Northwestern Highway
Farmington Hills, MI 48334-2564
1-800-538-7822

Chapter 1. Installing a Temporary License

This chapter describes how to install a temporary license for a Compuware product that you are installing for the first time. A temporary license key is provided on a license diskette included in the product's distribution package.

The temporary license that was delivered with your product is valid for a limited time; it allows you to use the product until you obtain a permanent license. To extend the duration of a temporary license, contact your Compuware sales representative. If you have already received your permanent license key, you do not need to install a temporary license. Instead, install your permanent license according to the procedure in Chapter 9, "Installing a Permanent License" that is applicable to your license type.

Note

You must install a valid license key **before** you install a QACenter product. Please note that Compuware Central does not require a license. If you are only installing Compuware Central proceed to Chapter 8, "Installing Compuware Central".

To install your temporary license, follow the appropriate procedure for your platform:

- "Installing a Temporary License on Windows 95, 98, or NT" on page 1-1
- "Installing a Temporary License on UNIX or Windows 3.1x" on page 1-4.

Installing a Temporary License on Windows 95, 98, or NT

Before you begin installing you temporary license, locate the temporary license diskette that was in your distribution package. You should have received one diskette for each product you ordered. If you ordered the TestPack, however, you should have received a single diskette containing a file named testpk*xx*.dat. This file combines the temporary license keys for the TestPack products: *QA*Run, *QA*Director, and TrackRecord.

Note

If you are installing a temporary license in a computer with Windows 3.1x, see "Installing a Temporary License on UNIX or Windows 3.1x" on page 1-4.

To install your temporary license on a Windows machine you will use the License Administration Utility (LAU), which is located on the *QA*Center CD-ROM.

1. If necessary, create a directory on the drive where your operating system is installed called \Program Files\Compuware\License (or \cpwr for 16-bit products). This directory may have already been created for another Compuware product.

2. Insert the *QA*Center CD in the CD-ROM drive. On the *QA*Center screen, click **Install QACenter Products**.

3. Click **Run License Administration Utility**. The LAU opens.

4. On the LAU main window, click the **Install License** button. The Install License Files dialog box appears.
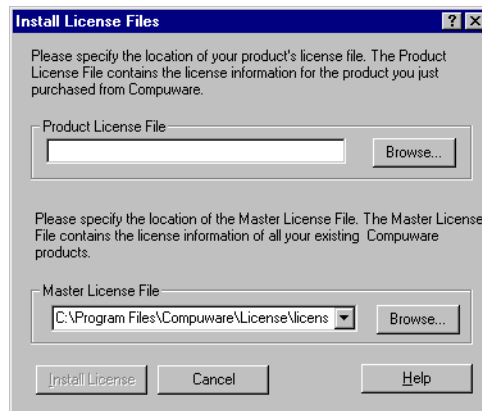
5. Click the **Browse** button next to the **Product License File** field to navigate to the temporary license file. This file should be on the temporary license diskette that came with your Compuware product. Click **Open**.

6. Click the **Browse** button next to the **Master License File** field to navigate to the master license file. This file is called license.dat and is normally located in the directory \Program Files\Compuware\License (or \cpwr). Click **Open**.

    If you do not have a license file for another Compuware product, click **Browse** and navigate to the directory \program files\compuware\license (or \cpwr) that you created in Step 1 and create a new file by typing license.dat in the **File Name** field. Click **Open** to select the new license file as your master file.

7. When you have selected the correct product and master license files, click the **Install License** button. This installs the product license file to your master license file. Once it is installed, click **OK**.

8. Check that the environment variable called LM_LICENSE_FILE is set. If it is not set, use the appropriate procedure below to set it.

For Windows 95 or 98:

a. From the **Tools** menu on the LAU main window, choose **Set**. The Set License File Variable dialog box displays the current environment variable setting.

b. If the variable LM_LICENSE_FILE is not set to the license.dat file, click the **Browse** button and navigate to the appropriate license file. The file should be located in \Program Files\Compuware\License. Click **Open** to add the file to the LM_LICENSE_FILE variable.

c. Click **OK** to save your changes. LAU sets the entry LM_LICENSE_FILE in your autoexec.bat file.

d. When prompted to create a backup of your autoexec.bat file, click **Yes**. The backup file is named autoexec.0*XX* (where *X*=1 through 99.)

e. When you are finished, reboot the computer for the changes to take effect.

For Windows NT:

In Windows NT, you have to set the environment variable from the System Properties dialog box in the Windows control panel.

a. Exit the *QA*Center CD-ROM.

b. From the **Start** menu, select **Settings>Control Panel>System**. On the System dialog box, click the **Environment** tab.

c. In the **Variable** field, type LM_LICENSE_FILE.

d. In the **Value** field, type the fully qualified path of your license file. For example, C:\Program Files\Compuware\License\license.dat. Click the **Set** button.

e. When you are finished, reboot the computer for the changes to take effect.

9. Install your *QA*Center product(s). Refer to the product-specific installation chapter in this guide for more information:

- To install *QA*Run, see Chapter 2, "Installing QARun"
- To install *QA*Director 4.3, see Chapter 3, "Installing QADirector 4.3"
- To install WebCheck, see Chapter 4, "Installing WebCheck"
- To install *QA*Load, see Chapter 5, "Installing QALoad"
- To install *QA*Director 2.3, see Chapter 6, "Installing QADirector 2.3"
- To install *QA*Track, see Chapter 7, "Installing QATrack"
- To install Compuware Central, Chapter 8, "Installing Compuware Central"
- To install TrackRecord, refer to the *TrackRecord Installation Guide*

Installing a Temporary License on UNIX or Windows 3.1x

1. Locate the temporary license diskette in your distribution package. You should have received one diskette for each product you ordered. If you ordered the TestPack, however, you should have received a single diskette containing a file named *qatest.dat*. This file combines the temporary license keys for the TestPack products: *QA*Run, *QA*Director, and TrackRecord.

2. Check to see if a license file already exists on the machine on which you intend to install the product. The license file should be named license.dat. It is normally located in the directory ⁄cpwr/license (or \cpwr for Windows) on the drive where a Compuware product is installed.

   - If a license.dat file ***does not*** exist for another product, go to Step 3.

   - If a license.dat file already exists for another product, go to Step 4.

3. On the drive where your operating system is installed, create a directory called ⁄cpwr/license (or \cpwr for Windows).

4. Copy the temporary license string from the license diskette to your license.dat file:

   - If a license file did not exist for another product, copy the file from the diskette into the directory you created in Step 3. Then, rename the file **license.dat**.

   - If a license file already exists, open that file in a text editor such as Pico or Notepad. Copy the new temporary license key (the FEATURE and VENDOR lines) to the end of the file, as highlighted in the following example:

```
FEATURE QATrack compuware 1.400 10-sep-1998 10 6C74309CB84A9F07C5ED\
VENDOR_STRING=989898;0;PERM ck=12
FEATURE QARun compuware 04.600 12-jan-1999 0 1CF2086C1D9766696EDO\
VENDOR_STRING=989898;0;TRIAL HOSTID=DEMO
```

5. Save your changes to the license.dat file.

6. Repeat steps 4 and 5 for each product you wish to install.

7. Check that the LM_LICENSE_FILE environment variable is set. This variable may have already been set. If it is not set, use the appropriate procedure below to set it.

These procedures assume that license.dat is located in the directory \cpwr (Windows) or ⁄cpwr/license (UNIX).

For Windows 3.1x:

Using a text editor, open the autoexec.bat file and add the following line:

SET LM_LICENSE_FILE=c:\cpwr**license.dat**

Reboot the machine for these changes to take effect.

For UNIX:

Set the LM_LICENSE_FILE environment variable in your user profile to point to the directory where your license.dat file resides (⁄cpwr/license).

8. Install your *QA*Center product(s). Refer to the product-specific installation chapter in this guide for more information:

   - To install *QA*Run, see Chapter 2, "Installing QARun"
   - To install *QA*Director 4.3, see Chapter 3, "Installing QADirector 4.3"
   - To install WebCheck, see Chapter 4, "Installing WebCheck"
   - To install *QA*Load, see Chapter 5, "Installing QALoad"
   - To install *QA*Director 2.3, see Chapter 6, "Installing QADirector 2.3"
   - To install *QA*Track, see Chapter 7, "Installing QATrack"
   - To install Compuware Central, Chapter 8, "Installing Compuware Central"
   - To install TrackRecord, refer to the TrackRecord *Installation Guide*

To extend the duration of a temporary license, contact your Compuware sales representative.

Chapter 2. Installing *QA*Run

This chapter explains *QA*Run's installation processes. It details system requirements, installation, network configurations, and database selection. There are two types of *QA*Run installations: a full installation and a client installation. These are both explained in detail in this chapter. This chapter is divided into the following sections:

- **System Requirements —** Requirements for running *QA*Run.

- **QARun Installation —** Instructions for installing *QA*Run as a full installation or as a client. It also explains *QA*Run's network installation considerations.

- **Starting QARun and Connecting to a Database —** Instructions for starting *QA*Run and connecting to the appropriate database.

Note

Before you install *QA*Run, you must have a valid license installed. See Chapter 1, "Installing a Temporary License" or Chapter 9, "Installing a Permanent License" for instructions on installing a license.

System Requirements

The amount of space required to run *QA*Run is, of course, dependent on the amount of testing data you intend to generate. The following system requirements are the minimum suggested specifications to successfully run *QA*Run:

- 133-MHz Pentium PC or above (166 MHz or above recommended)
- Windows 95, Windows 98, Windows 2000 or Windows NT 4.0 (with Service Pack 4) or above with 32 MB of RAM
- 100 MB of hard-drive space for local installations; 5 MB of space for network installations
- SVGA (800 x 600) monitor and adapter
- Microsoft Access database (supplied with *QA*Run), Oracle Version 7.3 or 8 (and a separate server to store the Oracle repository), or SQL Server 6.5 or 7.0 (and a separate server to store the SQL Server repository).

QARun Installation

This section explains *QA*Run's installation processes and network installation considerations. If you are a first-time *QA*Run user, you should evaluate your site's specific usage requirements to determine the most appropriate installation procedure. There are two types of installations: full installations and client installations.

A full installation generates a complete set of *QA*Run programs and associated files on the specified drive. You should complete a full installation if you want to:

- Use *QA*Run on your workstation without logging on to a network.
- Install network clients that share the central network *QA*Run application.

A client installation copies specific application files to your local drive and shares other files with the network. Client installations share working files and executable files with the network. Consequently, before you can successfully install a network client, you must complete at least one full installation on the network.

Although a client installation does place some files on your local drive, it requires significantly less local disk space than a full workstation installation. You should implement a client installation if you want to:

- Share resources (such as scripts, checks, or events) in one repository
- Centrally manage your *QA*Run system
- Move workstations

Please review "System Requirements" on page 2-1 to ensure that *QA*Run will install and operate properly at your site, and then proceed to "Performing a Full Installation" on page 2-2.

Performing a Full Installation

If you have a license to use *QA*Run on one or more computers, you can complete a full installation on each workstation, or client workstations can access a central *QA*Run network installation. If you intend to run *QA*Run in a shared Windows environment, you must still complete a full installation on the server.

Note

Before you install *QA*Run, you must have a valid license installed. See Chapter 1, "Installing a Temporary License" or Chapter 9, "Installing a Permanent License" for instructions on installing a license.

To perform a full installation, complete the following steps:

1. Before proceeding with the *QA*Run installation, Compuware recommends that you review the *QA*Run Release Announcement. This document details new release features and functionality that may impact or enhance your site's usage of *QA*Run.

2. Insert the *QA*Center CD into the CD-ROM drive.

   The *QA*Center setup should automatically start. If it does not, use Windows Explorer to navigate to the setup program.

3. Click **Install QACenter Products**.

4. Click **Install QARun**. The *QA*Run Software License Agreement dialog box displays.

   If *QA*Run cannot verify the location of your license key, a dialog box may appear prompting you to start the License Administration Utility (see Chapter 1, "Installing a Temporary License" or Chapter 9, "Installing a Permanent License").

5. Read the software license agreement and click the **Yes** button to accept the terms of the agreement.

Note

*QA*Run requires that Microsoft's DCOM (Distributed Component Object Model) and Microsoft's Data Access Components (MDAC) sets are installed on your workstation. If the *QA*Run installation program does not detect DCOM (Windows 95 only) and MDAC on your system, you will be prompted to automatically install them. After installing the necessary DCOM or MDAC components, your system will reboot and the *QA*Run installation program will begin.

The Choose QARun Location dialog box displays:
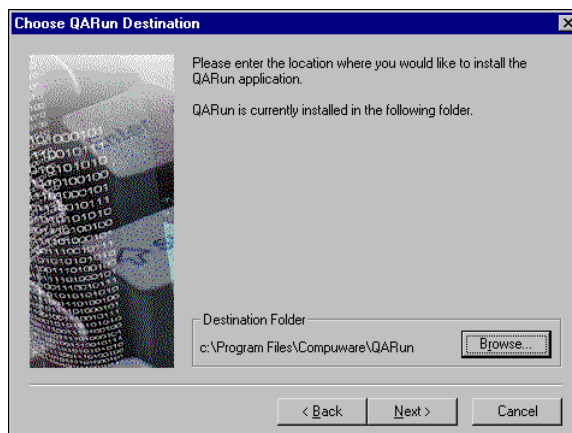
6. Select a location for the *QA*Run installation.

- By default, *QA*Run installs in the local folder named
  C:\Program Files\Compuware\QARun.

- To specify a different local path or to install to a network, type the path name in the field or click the **Browse** button and select an existing directory.

If you are upgrading to a new release, select the current location of *QA*Run.

If you intend to install network clients, you must install this copy of *QA*Run to a network folder where all network clients have read access.

7. Click **Next**. The Select *QA*Run Components dialog box displays:
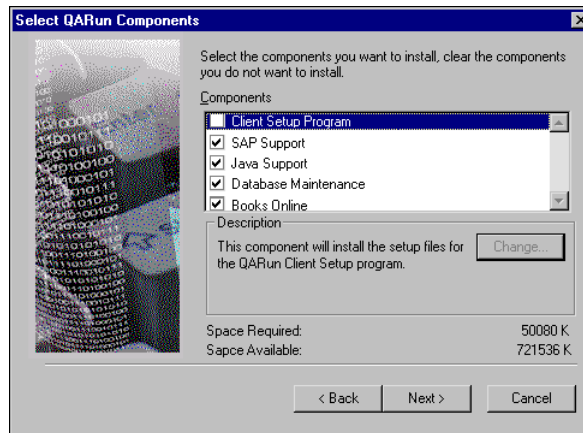
This dialog box allows you to install specific *QA*Run components. To receive further information related to a specific component, highlight the component and view a detailed description in the **Description** area.

If the selected component has further installation options, the **Change** button in the **Description** area is enabled. You can click the **Change** button to select the desired installation options and, then, click **OK** to return to the Select *QA*Run Components dialog box.

8. Select the component check boxes that you want to install.

Note

If you are installing to a network and will perform future client installations, you must select the **The Client Installation** check box. You must also have write access to the shared Windows folder in order to complete the first full installation.

Note

If you intend to test SAP or Java applications, you must select the appropriate component check box. Selecting these options automatically installs the additional support necessary to test in these environments.

9. Click **Next**. The *QA*Run Shortcut Folder dialog box displays. Verify the location where the program icons will be added.

10. Click **Next**. The Start Copying Files dialog box displays and allows you to review your installation selections.

11. Click **Next** to begin the actual installation.

    Follow the prompts on the Setup Wizard to help you make installation decisions.

    For Windows 95 and Windows 98, *QA*Run must write some information to the workstation's Autoexec.bat file. *QA*Run displays the following dialog:
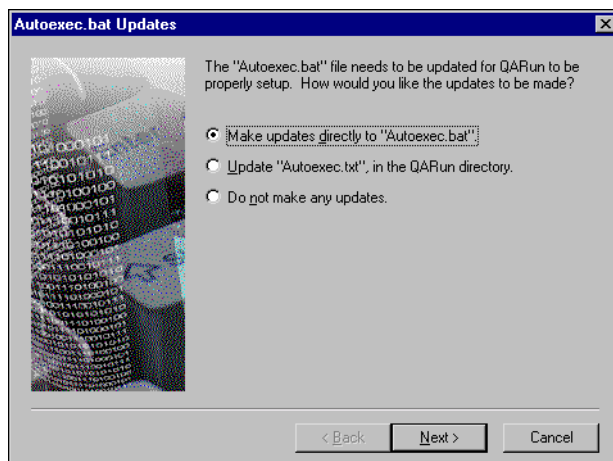
    •   If you select the **Make updates directory to "Autoexec.bat"** option, *QA*Run will write the necessary path information directly into your Autoexec.bat file. The changes will take affect after you re-boot the system.

        When *QA*Run updates the Autoexec.bat file, a back up of the original Autoexec.bat file is automatically saved to a file named Autoexec.qar.

    •   If you select the **Update "Autoexec.txt" in the QARun directory**, the applicable changes will be entered in the Autoexec.txt file. You can then copy the text and insert it manually into your Autoexec.bat file.

    •   If you select the **Do not make any updates** option, no changes will be made, and you will not be able to successfully start the *QA*Run program.

12. Click **Next** to complete the installation.

After the *QA*Run setup program completes, you may install additional *QA*Center products. After you are finished installing *QA*Center products, exit *QA*Center and restart the computer.

Where To Go Next

A complete copy of *QA*Run now resides on your local drive or on the network drive.

- If you installed to a network and are ready to establish network clients, proceed to "Performing a Client Installation" on page 2-6.

- If you are ready to begin using *QA*Run, proceed to "Starting QARun and Connecting to a Database" on page 2-7.

- If Adobe Acrobat Reader is not installed on your workstation, return to the *QA*Center CD's Products Installation dialog box and click the **Get Acrobat** button to launch Adobe's installation program.

  You must have Adobe Acrobat Reader installed to view *QA*Run's books online in PDF format.

Performing a Client Installation

If you are working with limited storage space on individual workstations, you should consider performing client installations. Installing a client copy of *QA*Run requires that some files reside on the local disk, but the required disk space is much less than that required for a full installation. Installing a client copy also allows you to centrally manage your *QA*Run system by using a central repository for all data.

Client installations can only be performed after a *QA*Run full installation has been performed on the network server (the component **The Client Install** check box must be selected during this installation).

You must complete a client installation for each workstation that will run from the shared *QA*Run installation on the network. Because the client installation's setup is run from the *QA*Run Client folder on the network, the client workstation must have read access to this folder during installation.

To install *QA*Run in a shared Windows environment, complete the following steps:

1. If you have not done so, complete a full installation as described on page 2-2.

| Note | Ensure that the component **The Client Install** check box is selected during the full installation. |

2. Add each client user to the *QA*Run User Table so they can log into the shared database (refer to the *QARun User's Guide* for more information).

3. Ensure that each client workstation has read access to the network directory where *QA*Run is installed.

Each client workstation will also need write access to the network directory where the *QA*Run database is stored.

4. From the client workstation, locate the network installation's *QA*Run **Client** folder and run the **setup.exe** program (C:\Program Files\Compuware\QARun\Client, by default). The setup's Welcome dialog box displays.

5. Click **Next** from the Welcome dialog box. The Start Copying Files dialog box displays.

6. Ensure that the components listed on the Start Copying Files dialog box are the components you intend to install and click **Next** to begin the installation.

Where To Go Next

A client copy of *QA*Run now resides on your local drive.

*   If you have not done so, you must install a temporary license key on each client machine *before* you will be able to start *QA*Run. See "Installing a Temporary License" on page 1-1 for details on entering the temporary license key.

*   If Adobe Acrobat Reader is not installed on your workstation, return to the *QA*Center CD's Products Installation dialog box and click the **Get Acrobat** button to launch Adobe's installation program. You must have Adobe Acrobat Reader installed in order to view *QA*Run's books online in PDF format.

*   If you are ready to begin using *QA*Run, proceed to "Starting QARun and Connecting to a Database" on page 2-7.

Starting *QA*Run and Connecting to a Database

*QA*Run's architecture is based on a test asset repository, or database. This multi-user repository offers centralized control of users and system access rights. This section provides details on connecting to the appropriate database and changing the Administration password.

Before you use *QA*Run, you need to determine the type of database you will be using. Use the following procedures to connect to the appropriate database type:

*   "Starting QARun and Connecting to a Microsoft Access Database" on page 2-8.
*   "Setting Up QARun To Connect to an ODBC Database" on page 2-9.

Starting *QA*Run and Connecting to a Microsoft Access Database

If an existing database has not been established, use the following procedure to start *QA*Run and connect to a Microsoft Access database:

1. Start *QA*Run:

    •   Click the **Start** button and choose **Programs>Compuware>QARun** from the **Start** menu.

    •   Select the *QA*Run icon. The Select Database Connection dialog box displays:

> **Note**
>
> If a *QA*Run database already exists, the Select Database Connection dialog box will not display. The Log On dialog box shown in step 4 on page 2-8 displays instead. If necessary, you can use the **Database** button on the Log On dialog box to select from existing *QA*Run databases.

2. Select the **Access MDB** option and click **Next**. The Select Access MDB dialog box displays:
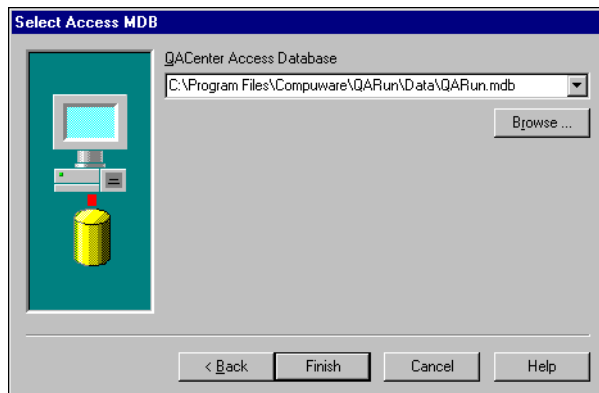
3. Type a new database path and name or click the **Browse** button to select from a list of existing databases.

4. Click the **Finish** button to set the database and continue. The Log On dialog box displays:
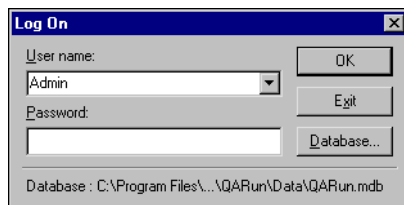
- If this is the first time *QA*Run has been used, type the following information:

  User Name: **Admin**
  Password: **Admin**

- If this is an upgrade, the password may have been changed. Type the correct password for the Admin user.

5. Click **OK** to continue.

You should now be successfully logged on as the *QA*Run administrator. To ensure security, you should change the administrator's password (see "Changing Database Maintenance Utility's Administrator Password" on page 2-15).

Setting Up *QA*Run To Connect to an ODBC Database

This section provides information on setting up *QA*Run to connect to an ODBC database server. It provides a basic overview of how *QA*Run communicates with the database server and stores *QA*Run data on the server. It provides the following information:

- ODBC database server requirements (Oracle and SQL Server, for example).
- Instructions for running the Database Maintenance utility to create the tables on the database server.
- Instructions for starting *QA*Run and connecting to the ODBC database.

Before using *QA*Run to connect to a database server as a client, you must have the following items already configured at your site:

Oracle Server Requirements

- You must have an existing database server that runs Oracle 7.3 or 8.

- You must have a database instance set up on the Oracle database server to hold *QA*Run and its associated data. Use the following specifics to configure the database instance:

  - When the Oracle database instance is defined, you must specify the Storage Character Set as 'iso 8859-1 West European'.

  - The NLS_LANGUAGE parameter should be set in the parameter file as:

    NLS_LANGUAGE = 'AMERICAN'

- You must have an Oracle userID and password to allow the *QA*Run administrator to set up on the Oracle database server.

- You must have access to a valid owner name (also know as a *schema*) on the Oracle database server. This owner name is the userID that will be associated with all the *QA*Run tables in the database.

- You must have the *QA*Run workstation set up as an Oracle client. The workstation should be able to connect and communicate with the Oracle database server. The

following components of the Oracle client must be installed and configured on the workstation:

- Microsoft's MSORCL32.DLL driver provided with the MDAC installation:

    The ODBC driver establishes the ODBC data source, which identifies an alias to the SQL*Net connect string alias.

- SQL*Net Easy for Windows 95 or SQL*Net Client 2.3.2.1.4 for Windows NT:

    The SQL*Net connect string alias establishes the connection to the *QA*Run database instance on the Oracle database server.

SQL Server Requirements

- You must have an existing database server that runs SQL Server 6.5.

- You must have a database instance set up on the SQL Server database server to hold *QA*Run and its associated data. Use the following specifics to configure the database instance:

    - When the SQL Server database instance is defined, you must specify the Storage Character Set 1252 150 (also know as ISO 8859-1).

- You must have an SQL Server user ID and password to allow the *QA*Run administrator to set up on the database server.

- You must have access to a valid owner name (also know as a schema) on the SQL Server database server. This owner name is the userID that will be associated with all the *QA*Run tables in the database.

- You must have the *QA*Run workstation set up as an SQL Server client. The workstation should be able to connect and communicate with the SQL Server database server. The following components of the SQL Server must be installed and configured on the workstation:

    - The SQLSRV32.DLL driver provided with the MDAC installation

You must run *QA*Run's Database Maintenance utility before attempting to connect *QA*Run to the database server (see page 2-11 for instructions).

Note

Running the Database Maintenance utility is only necessary if this is a new ODBC (both Oracle and SQL Server) server installation. If you are upgrading from a existing QARun ODBC database, or if you are converting from a QARun Microsoft Access database to an ODBC database, please refer to the *QARun User's Guide* for instructions on using the Database Maintenance utility.

After *QA*Run is installed on your workstation, use *QA*Run's Database Maintenance utility to populate the *QA*Run database instance on the database server. The *QA*Run workstation then uses Data Access Objects (DAO) to connect to a local Microsoft Access "link" file.

The link file resides on the local workstation and is used to map *QA*Run's tables to the database server.

Running the Database Maintenance Utility

The Database Maintenance utility is *QA*Run's database creation, update, repair, and conversion utility. During installation, this utility is also used to create the *QA*Run tables on the different types of supported ODBC database servers and to establish secure logon access to the database server by generating a schema file.

Caution

Using the Database Maintenance utility to create a new ODBC database will *overwrite* any *QA*Run information already contained in the specified database instance. *You should only use the following procedure to create a new QARun ODBC database.*

If you are upgrading your *QA*Run ODBC database, or if you are converting from a Microsoft Access database to an ODBC database, please refer to the *QARun User's Guide* for instructions on using the Database Maintenance utility in this manner.

1. Ensure that *QA*Run is closed and all users are logged off the system before using the Database Maintenance utility program.

Hint

Before closing *QA*Run, you can choose **Users** from the **Help** menu to display the Current Users dialog box. This dialog box displays a list of all active *QA*Run users currently logged on to the *QA*Run database. Ensure that the users are logged off and close *QA*Run.

2. Start the Database Maintenance utility:

• Click the **Start** button and select **Programs>Compuware>QARun** from the **Start** menu.

Choose the **Database Maintenance Utility** icon. The Database Maintenance utility main window displays:

3. From the **File** menu, choose **New Database>***Database Type*. The applicable Data Source Connection dialog box displays:

4. Type the name of an existing ODBC data source or click the **Browse** button and select a data source name from the Select ODBC Data Source dialog box.

5. Type the owner name, user ID, and password for the *QA*Run database instance on the database server.

This user ID and password will be used to attempt a connection to the *QA*Run database instance on the database server for the owner specified. If this succeeds, this user ID, password, and owner schema will eventually be encrypted and saved to a schema file with a .sch extension.

6. Click the **Create** button.

If the user ID and password are accepted by the database server, the Data Source Creation Status dialog box appears and displays the progress of the database creation.

After the *QA*Run database is created on the database server, you are prompted for a location to save the schema file.

7. Click **Yes** to create the encrypted schema file. The Schema File Generation dialog box displays:

8. Type a name and location for the schema file in the **Schema File** field or click the **Browse** button to select an existing schema file.

9. Type the name of an existing ODBC data source or click the **Browse** button and select a data source name from the Select ODBC Data Source dialog box.

10. Type the owner name, user ID, and password for the *QA*Run database instance on the database server.

11. Click **OK**. The schema file is saved and the Database Maintenance utility begins populating the *QA*Run database instance with the necessary *QA*Run tables.

Starting *QA*Run and Connecting to ODBC Databases

Use the following procedure to start *QA*Run and connect to a database server after successfully running the Database Maintenance utility:

1. Start *QA*Run:

    •   Click the **Start** button and select **Programs>Compuware>QARun** from the **Start** menu.

    •   Choose the *QA***Run** icon.

2. If this is the first time you've started *QA*Run, the Select Database Connection dialog box displays.

    If a *QA*Run database already exists, the Select Database Connection dialog box will not display. The Log On dialog box shown in step 8 on page 2-14 displays instead. If necessary, you can use the **Database** button on the Log On dialog box to select from existing *QA*Run databases.

3. Click the **Via ODBC** option and click **Next**. The Select ODBC Data Source dialog box displays:
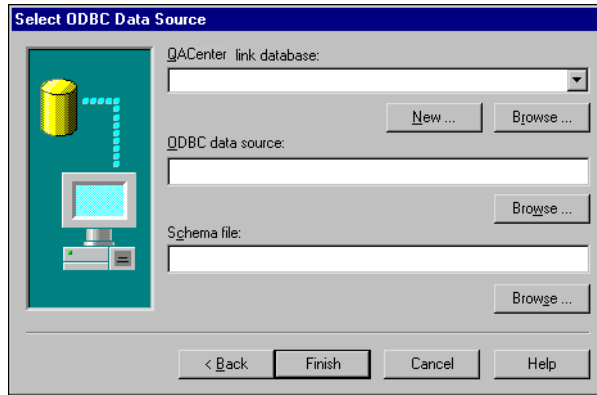
4. Use the **New** button (to create a new link file) or the **Browse** button (to select an existing link file) to select a path and name for the link file in the **QACenter Link Database** field.

    The link file (*.qld*) is a Microsoft Access database that resides on the local machine and maps *QA*Run's tables to the database server. If *QA*Run detects a change in the version of the database schema (version), the link file will automatically trigger an update to *QA*Run's tables.

5. Enter the name of the ODBC data source alias in the **ODBC Data Source** field or click the **Browse** button to view a list of existing ODBC data sources.

6. Enter the path and name of the schema file that was generated by *QA*Run's Database Maintenance utility in the **Schema File** field (see "Running the Database Maintenance Utility" on page 2-11 for more information).

7. Click **Finish** to continue.

    The first time you start *QA*Run, or if you've previously selected a database and *QA*Run detects a change in the version of the database schema, the link file will automatically trigger an update to *QA*Run's tables. *QA*Run will update each internal table, and a status indicator will display.

8. After the tables are updated, *QA*Run's Log On dialog box displays:
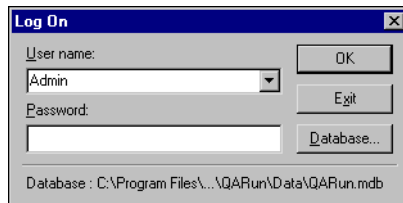
- If this is the first time *QA*Run has been used, enter the following information:

  User Name: **Admin**
  Password: **Admin**

- If this is an upgrade, the password may have been changed. Enter the correct password for the Admin user.

9. Click **OK** to continue.

You should now be successfully logged on as the *QA*Run administrator. To ensure security, you should change the administrator's password (see the following section on "Changing Database Maintenance Utility's Administrator Password" on page 2-15).

Changing Database Maintenance Utility's Administrator Password

When you install *QA*Run for the first time, the a Database Maintenance utility contains a single user (Admin). The default password for the Admin user is "Admin". You should change the Admin user's password to prevent unauthorized access to this ID in the future.

To change the administration password:

1. Start the Database Maintenance utility:

- Click the **Start** button and choose **Programs>Compuware>QARun**.

- Choose the **Database Maintenance Utility** icon. The Database Maintenance utility main window displays:

2. From the **File** menu, select **Open Database>** *Database Type*. The applicable Data Source Connection dialog box displays:
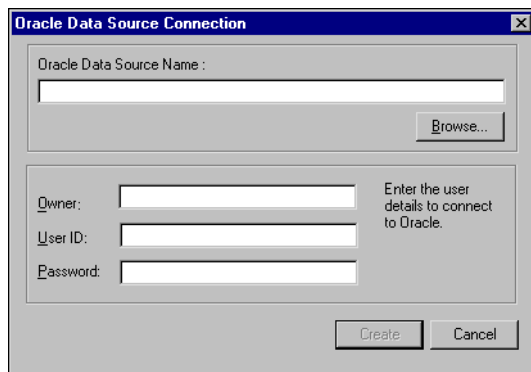
3. Type the name of the database or click **Browse** and navigate to the file.

If necessary for ODBC databases, enter the owner name, user ID, and password and click **Open** to log on to the ODBC database.

4. With the database open, choose **Tools>User Administration**. The Log On dialog box displays prompting you to enter your user name and password to log on to the *QA*Run database.

- If this is the first time *QA*Run has been used, enter the following information:

  User Name: **Admin**
  Password: **Admin**

- If this is an upgrade, the password may have been changed. Enter the correct password for the Admin user.

You should now be successfully logged on as the *QA*Run administrator. To ensure security, you should change the administrator's password.

5. Click **OK** to continue. The Select User dialog box displays:
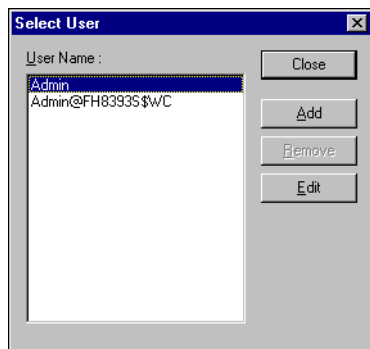
6. Select **Admin** from the list of users and click the **Edit** button. The Edit User dialog box displays:
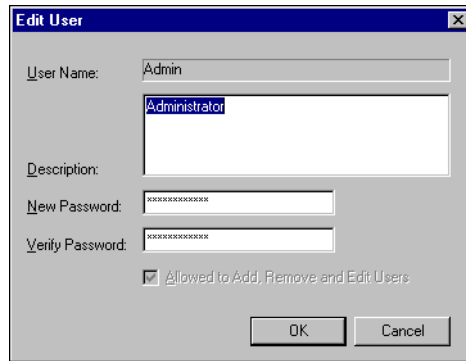
7. Type the new password in the **New Password** Field. Type it again in the **Verify Password** field. Click **OK**.

If you are setting up a network installation, you should add user IDs to the database for each end user. If you are using a stand-alone PC, you should add your own user ID. Refer to the section on adding users in the *QARun User's Guide* for instructions on adding end users.

For information on using *QA*Run and the Database Maintenance utility, refer to the *QARun User's Guide*. You can access the *QARun User's Guide* from the documentation bookshelf. To do so, click the taskbar's **Start** button and choose **Programs>Compuware>QARun>QARun Books>QARun Bookshelf**.

Chapter 3. Installing *QA*Director 4.3

You have three installation options for *QA*Director: a full installation, a client installation, or a remote installation. Descriptions and procedures for each type of installation are provided in this chapter. This chapter includes the following sections:

- **System Requirements —** The hardware and software requirements for installing *QA*Director.

- **Minimum Requirements for Integrated Tools —** Version requirements for integrated Compuware tools.

- **Choosing the Installation Type —** How to choose the appropriate type of installation for your working environment.

- **Performing a Full Installation —** How to complete a full installation of all *QA*Director programs and files on a local or network drive.

- **Performing a Client Installation —** How to perform a client installation, which stores specific files on a local drive while sharing other files on a network.

- **Performing a Remote Installation —** How to complete a remote installation, which allows you to run tests on a remote machine.

System Requirements

- Pentium 120-MHz processor or above (166 MHz or above recommended)
- 32 MB RAM (64 MB recommended)
- CD-ROM drive
- VGA monitor and adapter
- **Server installations:** Microsoft Windows NT 4.0 with minimum 65 MB free disk space
- **Client installations:** Microsoft Windows NT 4.0, Windows 95, or Windows 98 with minimum 41 MB free disk space

3270 Emulator

If you intend to run *QA*Hiperstation scripts or MVS batch jobs, a 16-bit or 32-bit Windows 3270 terminal emulation software package is also required. For detailed information on the supported 3270 emulators and minimum version requirements, please read the *QA* 3270 Emulator Server Readme.txt file. The *QA* 3270 Emulator Server can be installed from the *QA*Center CD.

Minimum Requirements for Integrated Tools

If you intend to use *QA*Director with any of the following Compuware tools, please note the minimum version requirements:

- *QA*Run Release 4.3.2 or above (Release 4.4 or above required to view run logs)
- *QA*Hiperstation Release 5.3.1 or above (Release 5.4 or above required to run MVS batch jobs or view compare logs with *QA*Hiperstation+)
- *QA*Hiperstation+ Release 1.0.1 or above
- QA3270 Emulator Server Release 2.4.2 or above required to run *QA*Hiperstation or MVS batch jobs
- File-AID/CS Convert Release 2.00.05 or above
- File-AID/CS Compare Release 1.01.00 or above
- TrackRecord Release 5.0 or above
- *QA*TrackRecord Release 4.0 or above
- BoundsChecker Release 5.0 or above
- TrueCoverage Release 6.0 or above
- TrueTime Release 1.22 or above

Choosing the Installation Type

You have three installation options for *QA*Director: a full installation, a client installation, or a remote installation. The type of installation you choose depends on your working environment.

Stand-alone Environment: Perform One Full Installation

If only one person will use *QA*Director, perform a full installation of *QA*Director on a stand-alone Windows NT 4.0 workstation. See "Performing a Full Installation" on page 3-4.

Team Environment: Perform Full Installation on Server and Client Installations on Workstations

If you work in a team environment where several people will use *QA*Director and share test data, the most logical choice will be to perform a full installation of *QA*Director on a shared server machine accessible to all the workstations. In most cases, this is the machine where the test management server runs and where the test suite data is stored. See "Supported Client/Server Configurations" on page 3-3. After you complete a full installation on the shared network drive, you need to perform a client installation on each Windows 95, Windows 98, or Windows NT 4.0 workstation where *QA*Director will be run. On each workstation, you must map a permanent drive to the shared network drive where the full installation of *QA*Director resides. Each client workstation runs a test execution server so that scripts can be executed on the workstation. See "Performing a Full Installation" on page 3-4 and "Performing a Client Installation" on page 3-7.

Supported Client/Server Configurations

Recommended Configuration

- Full installation on a Windows NT 4.0 Server machine. The Test Management Server runs on this machine, either as an NT service or as a console application.

- Test suites stored on the NT 4.0 Server machine.

- Client installations on Windows NT 4.0 machines.

- TCP/IP protocol loaded on all machines.

- Access to a DNS server to resolve the address to all workstations.

Alternative Configuration 1

- Full installation on a Windows NT 4.0 Server or Workstation machine. The Test Management Server runs on this machine, either as an NT service or as a console application. *You may encounter a 10 concurrent-user limitation on a Windows NT Workstation machine.*

- Test suites stored on the NT 4.0 Server or Workstation machine.

- Client installations on Windows 95, Windows NT 4.0, or Windows 98 machines.

- TCP/IP protocol loaded on all machines.

- Access to a DNS server to resolve the address to all workstations.

Alternative Configuration 2

- Full installation on a Novell 5.x machine. The Test Management Server runs on a Windows NT 4.0 machine, either as an NT service or as a console application.

- Test suites stored on a Novell 5.x network drive.

Alternative Configuration 2

- Client installations on Windows 95, Windows NT 4.0, or Windows 98 machines.

- TCP/IP protocol loaded on all machines.

- Access to a DNS server to resolve the address to all workstations.

Alternative Configuration 3

- Full installation on Windows NT 4.0 machine. The Test Management Server runs on this machine, either as an NT service or as a console application.

- Test suites stored on a Novell 5.x network drive.

- Client installations on Windows 95, Windows NT 4.0, or Windows 98 machines.

- TCP/IP protocol loaded on all machines.

- Access to a DNS server to resolve the address to all workstations.

Remote Installation

In rare instances, you may want to perform a remote installation on a machine that does not have file sharing but on which you want to execute tests. See "Performing a Remote Installation" on page 3-9.

Performing a Full Installation

A full installation copies all *QA*Director programs and associated files to the specified drive. Perform a full installation of *QA*Director if you want to:

- Install *QA*Director locally on a stand-alone Windows NT 4.0 workstation so that one person can use *QA*Director without logging on to a network.

- Install *QA*Director on a shared Windows NT 4.0 workstation or server, so that multiple users can run it from their local workstations. In this case, after you perform the full installation, you must also perform a client installation at each workstation. Refer to "Performing a Client Installation" on page 3-7.

Note

Before you install *QA*Director, you must have a valid license installed. See Chapter 1, "Installing a Temporary License" or Chapter 9, "Installing a Permanent License" for instructions on installing a license.

To perform a full installation, follow these steps:

1. Log on to the Windows NT machine as a user with administrator privileges for that machine.

2. Insert the *QA*Center CD into the CD-ROM drive. The *QA*Center setup should automatically start. If it does not, run **setup.exe** from the CD root directory.

3. Click **Install QACenter Products**.

4. Click **Install QADirector**.

5. Click **Install QADirector (32-bit)**.

6. Read the *QA*Director Welcome screen and click **Next**.

7. Read the software license agreement and click **Yes** if you accept.

8. On the User Information dialog box, type your name and company. Click **Next**.

9. On the Choose Destination Location dialog box, select the directory where you want to install *QA*Director. Click **Next**.

10. On the Setup Type dialog box, select **Full**. Click **Next**.

11. On the Select Optional Components dialog box, select the check box next to each item you want to install:

    *   BoundsChecker
    *   TrueCoverage
    *   TrueTime
    *   JRE (Java Runtime Environment)

    Select BoundsChecker, TrueCoverage, or TrueTime to install a **runtime version** of either product. (Before installing the runtime version of a product, verify that at least one person on your team has a full version of the product so the test application can be instrumented.) Select JRE if you intend to use manual tests in *QA*Director. If a component is already installed on your computer, the item will not appear on this dialog box. The dialog box itself will not appear if all the items are already installed. Make your selections and click **Next**.

12. The Install Test Manager Server dialog box displays these options:

    *   Install as a console application
    *   Install as a service (start service automatically on reboot)

    The test management server maintains *QA*Director data about jobs and test suites, provides services to clients, and controls job execution. You cannot start *QA*Director unless the test management server is running, either on the same workstation or on a shared network machine. You can choose to set up the test management server as a console application or as a Windows NT service. You may want to set up the test management server as a service if, for example, you are installing it on a

machine where users are periodically logging on and off, and you want to make sure the test management server is always running.

Select whether to install the test management server as a console application or as a service. Click **Next**.

13. The Install SQM Agent dialog box displays these options:

    - Do not install the SQM Agent on this system
    - Install as a console application

    The SQM Agent enables data synchronizing between the test suite directories and the *QA*Director database. This means that if you synchronize data for a test suite, *QA*Director automatically saves the test suite data in both the test suite directory and in the *QA*Director database. Note that this cannot be used as a method for sharing test suites among a team. That is, *QA*Director does not read suite data from the database. Instead, the suite data in the database may be helpful if, for example, you want to use a report writer to extract information from the database to create a custom report. If you do not plan to use the data synchronization option, do not install the SQM Agent.

    Select whether or not to install the SQM Agent and click **Next**.

14. Select the program folder to which you want to add the *QA*Director program icons. The default is the Compuware>*QA*Director program folder. Click **Next**.

15. Review the settings on the Start Copying Files dialog box and click **Next** to begin installing the program files.

16. If you chose to install the Java Runtime Environment (JRE) in step 11, the program starts a self-extracting executable to install it.

17. When the installation is complete, restart your computer.

Where To Go Next

- If you installed *QA*Director on a network and are ready to establish workstation clients, proceed to "Performing a Client Installation" on page 3-7.

- If you installed *QA*Director on a stand-alone workstation, and you intend to use *QA*Hiperstation with *QA*Director, you need to install the *QA* 3270 Emulator Server on this workstation (if you have not already done so). The *QA* 3270 Emulator Server manages the communications between your 3270 mainframe emulator and *QA*Director when accessing and executing *QA*Hiperstation scripts on the mainframe. To install the *QA* 3270 Emulator Server, insert the *QA*Center CD into the CD-ROM drive. Click **Install QACenter Products**. Click **Install QADirector**. Click **Install QA 3270 Emulator Server**.

- If Adobe Acrobat Reader is not installed on your workstation, return to the initial *QA*Center setup screen and click **Install Adobe Acrobat Reader** to launch Adobe's

installation program. You must have Adobe Acrobat Reader installed in order to view *QA*Director's books online in PDF format.

- If you are ready to begin using *QA*Director, refer to the "Administrator Tasks" chapter in the *QADirector Windows User's Guide* for information about setting up user IDs and the *QA*Director database.

Performing a Client Installation

A client installation of *QA*Director copies specific application files to your local drive and shares other working files and executables with the network installation. Consequently, a client installation requires significantly less local disk space than a full installation. You should perform a client installation if you want to:

- Share test suite data with a team
- Centrally manage *QA*Director

You must complete a client installation on each workstation that will run the shared *QA*Director installation on the network. Client installations can be performed on Windows 95, Windows 98, and Windows NT 4.0 workstations.

Prerequisites:

- Complete a full installation of *QA*Director on a shared Windows NT 4.0 machine accessible by the client machines. Refer to "Performing a Full Installation" on page 3-4 for details.

- On each workstation, map a permanent drive to the drive where the full installation of *QA*Director resides. Make sure the client machines have read/write access to this directory.

- Before you install *QA*Director, you must have a valid license installed. See Chapter 1, "Installing a Temporary License" or Chapter 9, "Installing a Permanent License" for instructions on installing a license.

Follow these steps to complete the client installation:

1. Insert the *QA*Center CD into the CD-ROM drive of the client machine. The *QA*Center setup should automatically start. If it does not, run **setup.exe** from the CD root directory.

2. Click **Install QACenter Products**.

3. Click **Install QADirector**.

4. Click **Install QADirector (32-bit)**.

5. Read the *QA*Director Welcome screen and click **Next**.

6. Read the software license agreement and click **Yes** if you accept.

7. On the User Information dialog box, type your name and company. Click **Next**.

8. On the Choose Destination Location dialog box, select the directory where you want to install *QA*Director. Click **Next**.

9. On the Setup Type dialog box, select **Client**. Click **Next**.

10. On the Select Optional Components dialog box, select the check box next to each item you want to install:

   • BoundsChecker
   • TrueCoverage
   • TrueTime
   • JRE (Java Runtime Environment)

   Select BoundsChecker, TrueCoverage, or TrueTime to install a **runtime version** of either product. (Before installing the runtime version of a product, verify that at least one person on your team has a full version of the product so the test application can be instrumented.) Select JRE if you intend to use manual tests in *QA*Director. If a component is already installed on your computer, the item will not appear on this dialog box. The dialog box itself will not appear if all the items are already installed. Make your selections and click **Next**. The Full Installation Location dialog box appears:
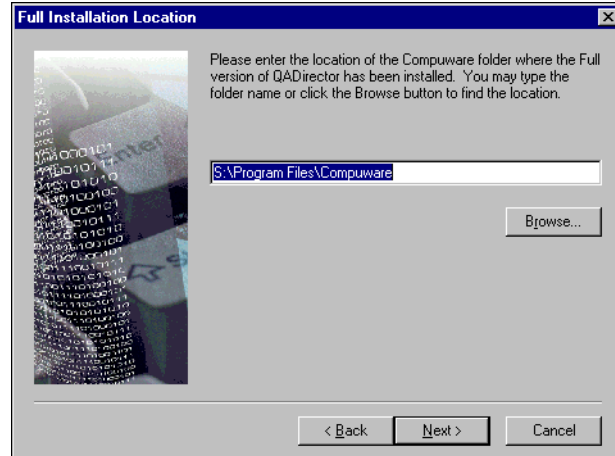
11. Enter the location where the full installation of *QA*Director resides. The client machine must have read/write access to this directory. Click **Next**.

12. Select the program folder to which you want to add the *QA*Director program icons. The default is the Compuware>*QA*Director program folder. Click **Next**.

13. Review the settings on the Start Copying Files dialog box and click **Next** to begin installing the program files.

14. If you chose to install the Java Runtime Environment (JRE) in step 10, the program starts a self-extracting executable to install it.

15. When the installation is complete, restart your computer.

Where To Go Next

- If you intend to use *QA*Hiperstation with *QA*Director, you need to install the *QA* 3270 Emulator Server on this workstation (if you have not already done so). The *QA* 3270 Emulator Server manages the communications between your 3270 mainframe emulator and *QA*Director when accessing and executing *QA*Hiperstation scripts on the mainframe. To install the *QA* 3270 Emulator Server, insert the *QA*Center CD into the CD-ROM drive. Click **Install QACenter Products**. Click **Install QADirector**. Click **Install QA 3270 Emulator Server**.

- If Adobe Acrobat Reader is not installed on your workstation, return to the initial *QA*Center setup screen and click **Install Adobe Acrobat Reader** to launch Adobe's installation program. You must have Adobe Acrobat Reader installed in order to view *QA*Director's books online in PDF format.

- If you are ready to begin using *QA*Director, refer to the "Administrator Tasks" chapter in the *QADirector Windows User's Guide* for information about setting up user IDs and the *QA*Director database.

Performing a Remote Installation

Remote machines are computers that do not have file sharing and thus cannot share the data in *QA*Director test suites. This means that you cannot create or update test suite data on the remote machine. You can, however, execute tests on the remote machine if you perform a remote installation on the machine. This process installs the test execution server and other files needed to run tests on the remote machine. You can perform remote installations on machines running Windows 95, Windows 98, and Windows NT 4.0.

1. Insert the *QA*Center CD into the CD-ROM drive of the remote machine. The *QA*Center setup should automatically start. If it does not, run **setup.exe** from the CD root directory.

2. Click **Install QACenter Products**.

3. Click **Install QADirector**.

4. Click **Install QADirector (32-bit)**.

5. Read the *QA*Director Welcome screen and click **Next**.

6. Read the software license agreement and click **Yes** if you accept.

7. On the User Information dialog box, type your name and company. Click **Next**.

8. On the Choose Destination Location dialog box, select the directory where you want to install *QA*Director. Click **Next**.

9. On the Select Optional Components dialog box, select the check box next to each item you want to install:

   - BoundsChecker
   - TrueCoverage
   - TrueTime
   - JRE (Java Runtime Environment)

   Select BoundsChecker, TrueCoverage, or TrueTime to install a **runtime version** of either product. (Before installing the runtime version of a product, verify that at least one person on your team has a full version of the product so the test application can be instrumented.) Select JRE if you intend to use manual tests in *QA*Director. If a component is already installed on your computer, the item will not appear on this dialog box. The dialog box itself will not appear if all the items are already installed. Make your selections and click **Next**.

10. On the Setup Type dialog box, select **Remote**. Click **Next**. The Full Installation Location dialog box appears:
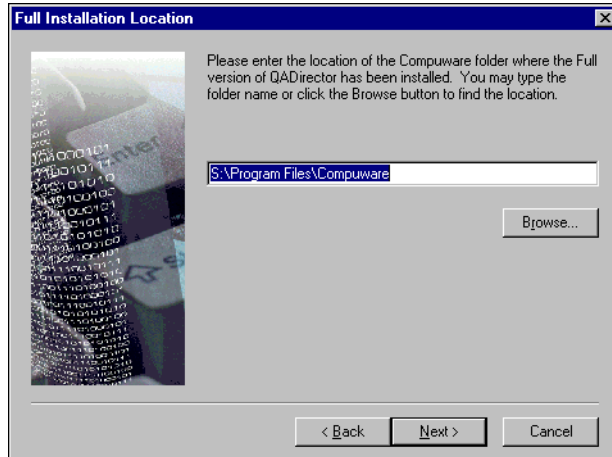
11. Enter the location where the full installation of *QA*Director resides. The remote machine must have read/write access to this directory. Click **Next**. The Remote Installation Location dialog box appears:
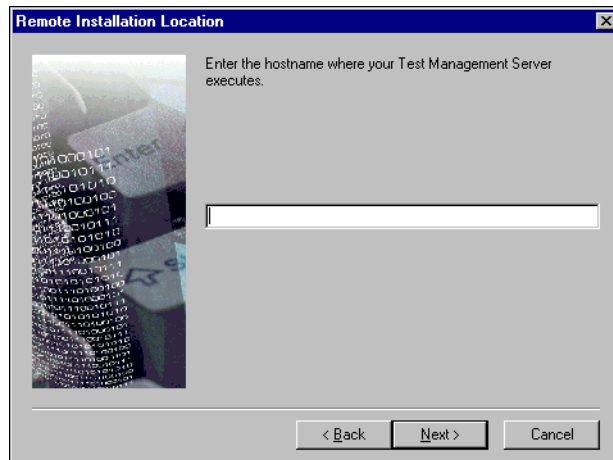
12. Enter the host name of the machine where the full installation of *QA*Director resides. Click **Next**.

13. Select the program folder to which you want to add the *QA*Director program icons. The default is the Compuware>*QA*Director program folder. Click **Next**.

14. Review the settings on the Start Copying Files dialog box and click **Next** to begin installing the program files.

15. If you chose to install the Java Runtime Environment (JRE) in step 9, the program starts a self-extracting executable to install it.

16. When the installation is complete, restart your computer.

Where To Go Next

If you are ready to begin using *QA*Director, refer to the "Administrator Tasks" chapter in the *QADirector Windows User's Guide* for information about setting up user IDs and the *QA*Director database.

Chapter 4.   Installing WebCheck

This chapter explains how to install WebCheck. It includes the following sections:

- **System Requirements —** The hardware and software requirements for installing and running WebCheck.
- **Installing WebCheck —** How to install WebCheck.
- **Starting WebCheck and Connecting to a Database —** Instructions for starting WebCheck for the first time and connecting to a database.

System Requirements

To use WebCheck, you must have the following:

- IBM or compatible PC with Pentium class processor
- Windows 95, 98, or NT 4.0 with service pack 4 or greater
- 32 bit Internet connection
- 32 MB RAM (64MB recommended)
- 5 MB free hard disk space
- Internet Explorer 4.01 with service pack 2 or greater.

Note

Internet Explorer does not need to be your browser of choice; however, it is needed when using the **Browse** feature found in the right pane.

WebCheck can scan any Web server and is not platform dependent in its scans.

Installing WebCheck

1. Insert the *QA*Center CD in the CD-ROM drive. On the *QA*Center screen, click **Install QACenter Products**.

2. Click **Install** WebCheck. The Setup program starts automatically.

3. Read the Welcome dialog box and click **Next**.

4. Read the software license agreement and click **Yes** if you accept.

Note

WebCheck requires that DCOM (Distributed Component Object Model) and MDAC (Microsoft's Data Access Components) be installed on your computer. If the WebCheck Setup does not detect DCOM (Windows 95 only) and MDAC on your workstation, you will be prompted to install them. After installing DCOM or MDAC, the setup program will prompt you to reboot your machine. After you reboot, WebCheck Setup will restart automatically.

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5. On the User Information dialog box, enter your name and company name and click **Next**.

6. The Choose Destination Location dialog box displays the default directory where the WebCheck files will be installed. To install to a different location, click **Browse** and select another directory. Click **Next**.

7. By default, the setup program will add the WebCheck program icons to the **Compuware**>WebCheck program folder. You can choose a different folder. Click **Next**.

8. On the Start Copying Files dialog box, verify the installation settings and click **Next**.

9. When installation is complete, the Setup Complete dialog box appears. If it is necessary to reboot your machine at this time, the setup program will prompt you to do so. Click **Finish**.

Where To Go Next

- If you are ready to begin using WebCheck, proceed to "Starting WebCheck and Connecting to a Database" on page 4-2.

- If Adobe Acrobat Reader is not installed on your workstation, return to the *QA*Center CD's Products Installation dialog box and click the **Get Acrobat** button to launch Adobe's installation program. You must have Adobe Acrobat Reader installed in order to view WebCheck's books online in PDF format.

Starting WebCheck and Connecting to a Database

WebCheck's architecture is based on a test asset repository, or database. This multi-user repository offers centralized control of users and system access rights. This section provides details on connecting to the appropriate database and changing the Administration password.

Before you use WebCheck, you need to determine the type of database you will be using. Use the following procedures to connect to the appropriate database type:

Note

If you have *QA*Run version 4.7 or greater, you can connect to the *QA*Run database.

Starting WebCheck and Connecting to a Microsoft Access Database

If an existing database has not been established, use the following procedure to start WebCheck and connect to a Microsoft Access database:

1. Start WebCheck:

- Click the **Start** button and choose **Programs>Compuware>WebCheck**.

- Select the WebCheck icon. The Select Database Connection dialog box displays:

Note

If a WebCheck database already exists, the Select Database Connection dialog box will not display. The Log On dialog box shown in step 4 on page 4-3 displays instead. If necessary, you can use the **Database** button on the Log On dialog box to select from existing WebCheck databases.

2. Select the **Access MDB** option and click **Next**. The Select Access MDB dialog box displays:
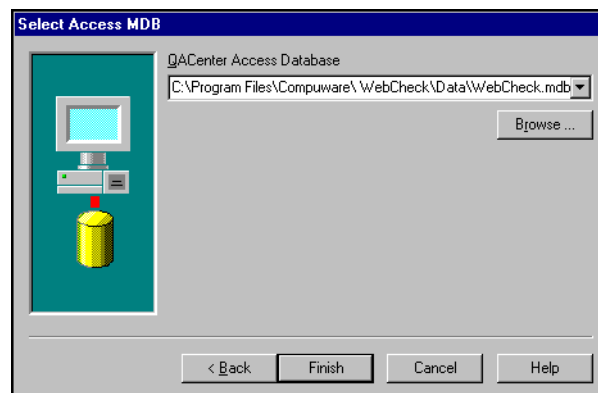
3. Type a new database path and name or click the **Browse** button to select from a list of existing databases.

4. Click the **Finish** button to set the database and continue. The Log On dialog box displays:
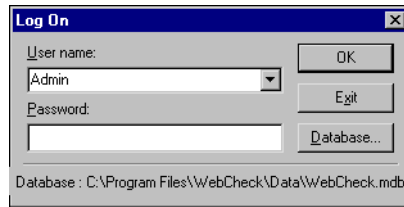
- If this is the first time WebCheck has been used, type the following information:

  User Name: **Admin**
  Password: **Admin**

- If this is an upgrade, the password may have been changed. Type the correct password for the Admin user.

5. Click **OK** to continue.

You should now be successfully logged on as the WebCheck administrator. To ensure security, you should change the administrator's password (see "Changing the WebCheck Administrator Password" on page 4-10).

Setting Up WebCheck To Connect to an ODBC Database

This section explians how to set up WebCheck to connect to an ODBC database server. It provides an overview of how WebCheck communicates with the database server and stores WebCheck data on the server. It includes the following information:

- ODBC database server requirements (Oracle and SQL Server, for example)
- Instructions for running the Database Maintenance utility to create the tables on the database server
- Instructions for starting WebCheck and connecting to the ODBC database.

Before using WebCheck to connect to a database server as a client, you must have the following items already configured at your site:

Oracle Server Requirements

- You must have an existing database server that runs Oracle 7.3 or 8.

- You must have a database instance set up on the Oracle database server to hold WebCheck and its associated data. Use the following specifics to configure the database instance:

  - When the Oracle database instance is defined, you must specify the Storage Character Set as 'iso 8859-1 West European'.

  - The NLS_LANGUAGE parameter should be set in the parameter file as:

    ```
    NLS_LANGUAGE = 'AMERICAN'
    ```

- You must have an Oracle user ID and password to allow the WebCheck administrator to set up on the Oracle database server.

- You must have access to a valid owner name (also know as a *schema*) on the Oracle database server. This owner name is the user ID that will be associated with all the WebCheck tables in the database.

- You must have the WebCheck workstation set up as an Oracle client. The workstation should be able to connect and communicate with the Oracle database server. The following components of the Oracle client must be installed and configured on the workstation:

  - Microsoft's MSORCL32.DLL driver provided with the MDAC installation:

    The ODBC driver establishes the ODBC data source, which identifies an alias to the SQL*Net connect string alias.

  - SQL*Net Easy for Windows 95 or SQL*Net Client 2.3.2.1.4 for Windows NT:

    The SQL*Net connect string alias establishes the connection to the WebCheck database instance on the Oracle database server.

SQL Server Requirements

- You must have an existing database server that runs SQL Server 6.5.

- You must have a database instance set up on the SQL Server database server to hold WebCheck and its associated data. Use the following specifics to configure the database instance:

  - When the SQL Server database instance is defined, you must specify the Storage Character Set `1252 150` (also know as ISO 8859-1).

- You must have an SQL Server user ID and password to allow the WebCheck administrator to set up on the database server.

- You must have access to a valid owner name (also know as a schema) on the SQL Server database server. This owner name is the user ID that will be associated with all the WebCheck tables in the database.

- You must have the WebCheck workstation set up as an SQL Server client. The workstation should be able to connect and communicate with the SQL Server database server. The following components of the SQL Server must be installed and configured on the workstation:

  - The SQLSRV32.DLL driver provided with the MDAC installation

You must run WebCheck's Database Maintenance utility before attempting to connect WebCheck to the database server (see page 4-6 for instructions).

Note	Running the Database Maintenance utility is only necessary if this is a new ODBC (both Oracle and SQL Server) server installation. If you are upgrading from a existing WebCheck ODBC database, or if you are converting from a WebCheck Microsoft Access database to an ODBC database, please refer to the *WebCheck User's Guide* for instructions on using the Database Maintenance utility.

After WebCheck is installed on your workstation, use WebCheck's Database Maintenance utility to populate the WebCheck database instance on the database server. The WebCheck workstation then uses Data Access Objects (DAO) to connect to a local Microsoft Access "link" file. The link file resides on the local workstation and is used to map WebCheck's tables to the database server.

Running the Database Maintenance utility

The Database Maintenance utility is WebCheck's database creation, update, repair, and conversion utility. During installation, this utility is also used to create the WebCheck tables on the different types of supported ODBC database servers and to establish secure logon access to the database server by generating a schema file.

Caution	Using the Database Maintenance utility to create a new ODBC database will **overwrite** any WebCheck information already contained in the specified database instance. **You should only use the following procedure to create a new** WebCheck **ODBC database.**
	If you are upgrading your WebCheck ODBC database, or if you are converting from a Microsoft Access database to an ODBC database, please refer to the *WebCheck User's Guide* for instructions on using the Database Maintenance utility in this manner.

1. Ensure that WebCheck is closed and all users are logged off before using the Database Maintenance utility program.

2. From the **File** menu, choose **New Database>***Database Type*. The applicable Data Source Connection dialog box displays:

3. Type the name of an existing ODBC data source or click the **Browse** button and select a data source name from the Select ODBC Data Source dialog box.

4. Type the owner name, user ID, and password for the WebCheck database instance on the database server.

   This user ID and password will be used to attempt a connection to the WebCheck database instance on the database server for the owner specified. If this succeeds, this user ID, password, and owner schema will eventually be encrypted and saved to a schema file with a .sch extension.

5. Click the **Create** button.

   If the user ID and password are accepted by the database server, the Data Source Creation Status dialog box appears and displays the progress of the database creation.

   After the WebCheck database is created on the database server, you are prompted for a location to save the schema file.

6. Click **Yes** to create the encrypted schema file. The Schema File Generation dialog box displays:
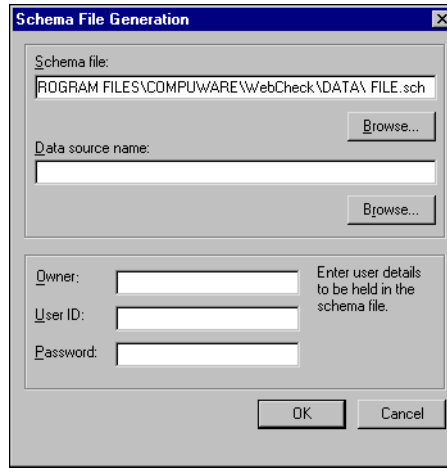
7. Type a name and location for the schema file in the **Schema File** field or click the **Browse** button to select an existing schema file.

8. Type the name of an existing ODBC data source or click the **Browse** button and select a data source name from the Select ODBC Data Source dialog box.

9. Type the owner name, user ID, and password for the WebCheck database instance on the database server.

10. Click **OK**. The schema file is saved and the Database Maintenance utility begins populating the WebCheck database instance with the necessary WebCheck tables.

Starting WebCheck and Connecting to ODBC Databases

After you run the Database Maintenance utility, use the following procedure to start WebCheck and connect to a database server:

1. Start WebCheck:

   • From the **Start** menu, select **Programs>Compuware>WebCheck**.

   • Choose the WebCheck icon.

2. If this is the first time you've started WebCheck, the Select Database Connection dialog box displays.

   If a WebCheck database already exists, the Select Database Connection dialog box will not display. The Log On dialog box shown in step 8 on page 4-9 displays instead. If necessary, you can use the **Database** button on the Log On dialog box to select from existing WebCheck databases.

3. Click the **Via ODBC** option and click **Next**. The Select ODBC Data Source dialog box displays:
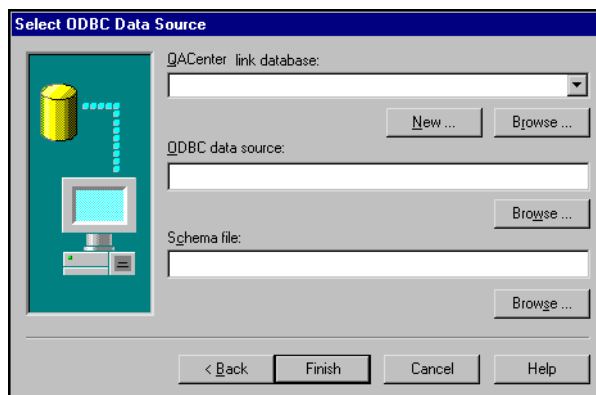
4. Use the **New** button (to create a new link file) or the **Browse** button (to select an existing link file) to select a path and name for the link file in the **QACenter Link Database** field.

   The link file (*.qld*) is a Microsoft Access database that resides on the local machine and maps WebCheck's tables to the database server. If WebCheck detects a change in the version of the database schema (version), the link file will automatically trigger an update to WebCheck's tables.

5. Enter the name of the ODBC data source alias in the **ODBC Data Source** field or click the **Browse** button to view a list of existing ODBC data sources.

6. Enter the path and name of the schema file that was generated by WebCheck's Database Maintenance utility in the **Schema File** field (see "Running the Database Maintenance utility" on page 4-6 for more information).

7. Click **Finish** to continue.

   The first time you start WebCheck, or if you've previously selected a database and WebCheck detects a change in the version of the database schema, the link file will automatically trigger an update to WebCheck's tables. WebCheck will update each internal table, and a status indicator will display.

8. After the tables are updated, WebCheck's Log On dialog box displays:
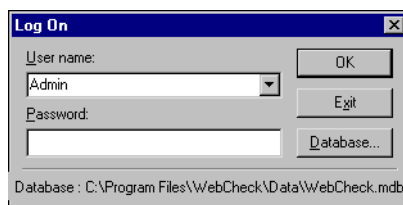
- If this is the first time WebCheck has been used, enter the following information:

  User Name: **Admin**
  Password: **Admin**

- If this is an upgrade, the password may have been changed. Enter the correct password for the Admin user.

9.   Click **OK** to continue.

You should now be successfully logged on as the WebCheck administrator. To ensure security, you should change the administrator's password (see the following section on "Changing the WebCheck Administrator Password" on page 4-10).

Changing the WebCheck Administrator Password

When you install WebCheck for the first time, a database containing a single user (Admin) is created. The default password for the Admin user is "Admin". You should change the Admin user's password to prevent unauthorized access to this ID in the future.

To change the administration password:

1.   Start the Database Maintenance utility:

- Click the **Start** button and select **Programs>Compuware>WebCheck**.

- Choose the **Database Maintenance utility** icon. The Database Maintenance utility main window displays:

2.   From the **File** menu, select **Open Database>** *Database Type*. The applicable Data Source Connection dialog box displays:
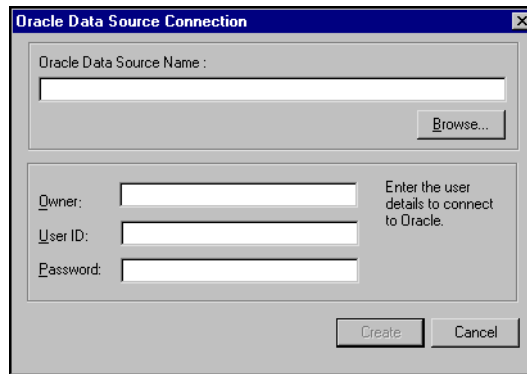
3. Type the name of the database or click **Browse** and navigate to the file.

If necessary for ODBC databases, enter the owner name, user ID, and password and click **Open** to log on to the ODBC database.

4. With the database open, choose **Tools>User Administration**. The Log On dialog box displays prompting you to enter your user name and password to log on to the WebCheck database.

- If this is the first time WebCheck has been used, enter the following informa-tion:

  User Name: **Admin**
  Password: **Admin**

You should now be successfully logged on as the WebCheck administrator. To ensure security, you should change the administrator's password.

5. Click **OK** to continue. The Select User dialog box displays:
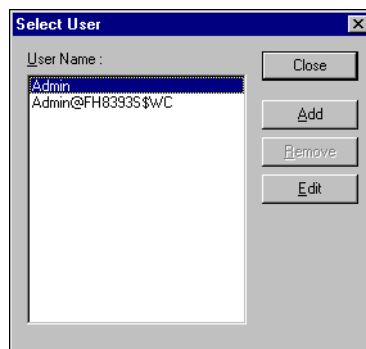
6. Select **Admin** from the list of users and click the **Edit** button. The Edit User dialog box displays:
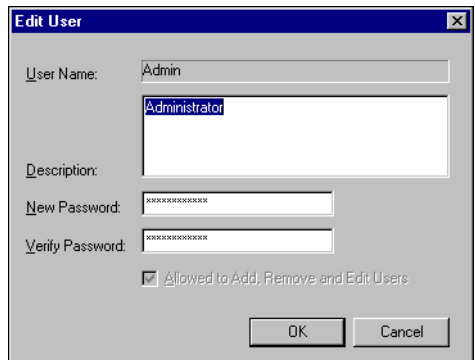
7. Type the new password in the **New Password** Field. Type it again in the **Verify Password** field. Click **OK**.

For information on using WebCheck and the Database Maintenance utility, refer to the *WebCheck User's Guide*. You can access the *WebCheck User's Guide* from the documentation bookshelf. To do so, click the taskbar's **Start** button and choose **Programs>Compuware>WebCheck>Documentation Bookshelf**.

Chapter 5. Installing *QA*Load

A full *QA*Load installation provides all the files necessary to capture, convert, modify, and play back test scripts. In addition to a full installation, you may choose to perform a component-based installation, in which you choose to install only specific *QA*Load components. For example, you may wish to install the *QA*Load Player on additional Windows or UNIX workstations. In that case, you could choose to *only* install the appropriate Player on those workstations.

This chapter includes the following sections:

- **System Requirements —** Hardware and software requirements for a full installation, as well as for each *QA*Load component.

- **QALoad Installation —** Instructions for installing *QA*Load.

- **UNIX Player Installation —** Instructions for installing the *QA*Load UNIX Player.

Note

Before you install *QA*Load, you must have a valid license installed. See Chapter 1, "Installing a Temporary License" or Chapter 9, "Installing a Permanent License" for instructions on installing a license.

System Requirements

This section describes the general requirements for the system running a complete installation of *QA*Load, as well as requirements for each individual *QA*Load component that may be installed separately.

Note

*QA*Load's Windows-based components are not supported on a Windows 95A operating system. See the specific requirements listed below for more information.

Complete Installation Requirements

- 133-MHz Pentium PC or above
- 16 MB RAM or more, plus an additional 1 MB per virtual user
- 40 MB available hard-drive space or more
- TCP/IP communications stack with a winsock.dll
- Windows 95B or later; Windows 98; Windows 2000; or Windows NT 4, SP3 or later (SP4 recommended). Note that *QA*Load does not support testing DCOM-based applications in Windows 98.
- 3 MB virtual memory per virtual user
- To compile scripts using Microsoft Visual C++ 5.0, you must have Service Pack 3 installed.

Requirements by Component

The following sections detail the system requirements necessary for installing each individual *QA*Load component.

*QA*Load Script Development Workbench

Capturing 32-bit applications

- Windows 95B or later; Windows 98; Windows 2000; or Windows NT 4, SP3 or later (SP4 recommended)
- 32 MB RAM or more
- 100 MB minimum available hard drive space

Capturing 16-bit applications

- 486 33-MHz PC or above
- 8 MB RAM or more
- 10 MB available hard-drive space or more
- TCP/IP communications stack with a winsock.dll
- Windows 3.x

QALoad Conductor Requirements

- 233-MHz Pentium PC or higher
- 64 MB RAM or more
- 100 MB minimum available hard drive space
- Windows 95B or later; Windows 98; Windows 2000; or Windows NT 4, SP3 or later (SP4 recommended)
- TCP/IP communications.

QALoad Windows Player Requirements

- 233-MHz Pentium PC or above
- 100 MB minimum available hard drive space
- 64 MB RAM or more
- Windows 95B or later; Windows 98; Windows 2000; or Windows NT 4, SP3 or later (SP4 recommended)
- TCP/IP communications
- Appropriate client application environment.

In addition, the Windows system running the *QA*Load Windows Player may need to meet specific requirements to support the middleware you will be testing. For middleware-specific requirements, see the following sections:

- "Windows Player Requirements for Oracle 7.x" on page 5-3
- "Windows Player Requirements for Oracle Net8" on page 5-4
- "Windows Player Requirements for Sybase" on page 5-5
- "Windows Player Requirements for SQL Server" on page 5-5
- "Windows Player Requirements for ODBC" on page 5-5
- "Windows Player Requirements for TUXEDO" on page 5-5
- "Windows Player Requirements for UNIFACE" on page 5-6

Windows Player Requirements for Oracle 7.x

The system running the Windows Player requires the following:

- Oracle 7.x or above client installation for playback

- Windows 95B or later; Windows 98; Windows 2000; or Windows NT 4, SP3 or later (SP4 recommended)

- Oracle's SQL*NET for Windows NT. This product is supplied by Oracle and should be installed and tested prior to running *QA*Load.

Note

> SQL*NET for Windows NT is a 32-bit version of SQL*NET. The Windows 3.1 version of SQL*NET, which you may use when capturing your client application, is a 16-bit version and cannot be used when running the *QA*Load Player software.

- SQL*NET communications between the client application and the database. Typical SQL*NET development environments include products such as PowerBuilder, SQLWindows, Developer 2000, and ODBC-based systems. Applications developed in these environments allow for complete client-oriented capture.

- Microsoft's Visual C++ Version 5.0 or 6.0. Note that you do not need to install any of the MFC components.

- Oracle OCI development kit for Windows NT. This is distributed with Oracle's PRO*C pre-compiler kit or with Oracle's database for Windows NT. This software must be available on one of the *QA*Load Player systems to compile the scripts.

Windows Player Requirements for Oracle Net8

The system running the Windows Player requires the following:

- Oracle Net8 or above client installation for playback.

- Windows 95B or later; Windows 98; Windows 2000; or Windows NT 5.0 or higher.

- Oracle Net8 for Windows 95B or higher; or Windows NT, SP3 or higher (SP4 recommended).

- Oracle Net8 communications between the client application and the database. Typical Net8 development environments include products such as PowerBuilder, SQL-Windows, Developer 2000, and ODBC-based systems.

- Microsoft's Visual C++ 5.0 or 6.0. Note that you do not need to install any of the MFC components.

- Oracle OCI8 development environment for Windows NT. This is distributed with Oracle8's PRO*C pre-compiler kit or with Oracle8's database for Windows NT. This software must be available on one of the *QA*Load Player systems to compile the scripts.

Windows Player Requirements for Sybase

The system running the Windows Player requires the following:

- Windows client application based on Sybase 4.x or Sybase System 10.

- Windows 95B or later; Windows 98; or Windows NT, SP3 or higher (SP4 recommended). Note that Sybase does not support Windows 2000.

- Sybase's Open Client library for Windows. If your application uses DBLIB calls, you need to load the DBLIB libraries and header files. If you use Sybase's newer CTLIB calls, you must load the appropriate CTLIB header files and libraries.

- Microsoft's Visual C++ Version 5.0 or 6.0 compiler to compile the scripts.

Windows Player Requirements for SQL Server

The system running the Windows Player requires the following:

- Windows client application based on Microsoft's SQL Server version 4.2, 6.0, or 6.5.

- Windows 95B or later; Windows 98; Windows 2000; or Windows NT, SP3 or higher (SP4 recommended).

- Microsoft's Visual C++ Version 5.0 or 6.0 compiler for compiling the scripts.

- SQL Server C-development environment and SDK for Windows NT or Windows 95.

Windows Player Requirements for ODBC

The system running the Windows Player requires the following:

- Windows client application that uses ODBC 2.0 drivers.

- Windows 95B or later; Windows 98; Windows 2000; or Windows NT, SP3 or higher (SP4 recommended).

- (Optional) If a *QA*Load script uses ODBC to communicate to the database and you need to convert 16-bit captures to 32-bit, a 32-bit ODBC driver must be installed to perform this operation.

- Microsoft's Visual C++ Version 5.0 or 6.0 compiler for compiling the scripts.

Windows Player Requirements for TUXEDO

The system running the Windows Player requires the following:

- Windows client application that uses TUXEDO V6.3 or later libraries (libwsc.lib, wtuxws32.lib, etc.).

- Complete Windows NT TUXEDO V6.3 or later workstation installation including \include and \lib directories.

- TUXEDO environment variables must be set. TUXDIR, WSNADDR, and PATH must include the \bin directory found in TUXEDO's root directory (TUXDIR).

- Microsoft's Visual C++ Version 5.0 or 6.0 compiler for compiling the scripts.

Windows Player Requirements for UNIFACE

The system running the Windows Player requires the following:

- Development environment of UNIFACE NT 7.204 or higher, complete with the 3GL interface.

- Valid UNIFACE NT Software Enable Key (SEK).

- Microsoft Visual C++ Version 5.0 ro 6.0 compiler for compiling the scripts.

*QA*Load UNIX Player Requirements

*QA*Load supports AIX 4.3 and above, Solaris 2.6 and above, and HP-UX 10.20and above.

- Minimum of 0.5 MB RAM per virtual user.
- 100 MB minimum available storage device space.
- ANSI C compiler for compiling scripts.
- TCP/IP communications.
- Appropriate client application environment.

Note

You must have a user ID set up on the Player system specifically to run the Player software. For example, set up a user ID (qaload) with a home directory of /usr/qaload or /home/qaload.

In addition, the UNIX system running the *QA*Load UNIX Player may need to meet specific requirements based upon which middleware you will be testing. For middleware-specific requirements, see the following sections:

- "UNIX Player Requirements for Oracle" on page 5-6
- "UNIX Player Requirements for Sybase" on page 5-7
- "UNIX Player Requirements for TUXEDO" on page 5-7

UNIX Player Requirements for Oracle

The system running the UNIX Player requires the following:

- ANSI C compiler for compiling scripts.

- Oracle OCI development kit for UNIX installed on one of the *QA*Load Player systems to compile the scripts. The OCI development kit is distributed with Oracle's PRO*C pre-compiler kit.

- SQL*NET communications between the client application and the database. Typical SQL*NET development environments include products such as PowerBuilder,

SQLWindows, Developer 2000, and ODBC-based systems. Applications developed in these environments allow for complete client-oriented capture.

UNIX Player Requirements for Sybase

The system running the UNIX Player requires the following:

- ANSI C compiler for compiling scripts.

- Sybase's Open Client library for UNIX. If your application uses DBLIB calls or Microsoft's SQL Server, you need to load Sybase's DBLIB libraries and header files. If you use Sybase's newer CTLIB calls, you must load the appropriate CTLIB header files and libraries.

UNIX Player Requirements for TUXEDO

The system running the UNIX Player requires the following:

- ANSI C compiler for compiling scripts.

- Client application that uses TUXEDO V6.3 or later libraries (libwsc.lib, wtuxws32.lib, etc.).

- Complete UNIX TUXEDO V6.3 workstation installation including \include and \lib directories.

- TUXEDO environment variables must be set. TUXDIR, WSNADDR, and PATH must include the \bin directory found in TUXEDO's root directory (TUXDIR).

*QA*Load Installation

If you accept the default configuration, the following components are automatically installed as part of the *QA*Load Windows installation process:

- *QA*Load Conductor
- Windows Player, Player Agent, and IP Spoof Datapool Generator
- UNIX Players and Player Agent
- Script Development Workbench
- Analyze
- NetLoad Server Modules
- *QA*Load online help
- *QA*Load books online (You must have the Adobe Acrobat Reader installed on your system to access the *QA*Load books online.)
- *QA*Load README

Installing Only the *QA*Load Components You Need

*QA*Load component-based installation allows you the freedom to determine which *QA*Load components to install. You may choose to install only the components that meet your needs. For example, you may only wish to install Player software on those workstations that will only be acting as Player Agent workstations where there is no need for a full *QA*Load installation. Or you may choose to install only the EasyScript component you are licensed for when you install the *QA*Load Script Development Workbench.

Complete the following steps to install *QA*Load from the *QA*Center CD.

Note

If this is the first installation of QALoad on this machine, you must install a license key *before* you install the product. See Chapter 1, "Installing a Temporary License" for details on entering the license key. However, if you are only installing a Player on a machine that will only act as a Player Agent workstation, you do not need to install a license.

1. If you are installing *QA*Load on a Windows NT machine, log on as a user with administrative privileges for that Windows NT machine.

2. Insert the *QA*Center installation CD in the CD-ROM drive. Setup starts automatically, and the Compuware *QA*Center screen appears.

3. Click **Install *QA*Center Products**.

4. To proceed with the *QA*Load installation, click **Install *QA*Load**.

5. Read the *QA*Load Welcome screen and click **Next**. The *QA*Load License Agreement dialog box opens.

6. Read the *QA*Load License Agreement and click **Yes** to continue.

7. If this is a first time installation of *QA*Load, the Choose Destination Location dialog box opens. Go to Step 8.

   If a previous installation of *QA*Load exists on this workstation, the QALoad Component Selection dialog box opens. Go to Step 9.

8. On the Choose Destination Location dialog box, click **Next** to accept the default folder (normally c:\Program Files\Compuware\QALoad) or enter the appropriate path for a different folder, then click **Next**.

9. On the *QA*Load Component Selection dialog box, select the *QA*Load components you wish to install.

   If a previous installation of *QA*Load resides on the workstation, components that were installed with the previous installation are listed in grey for your reference.

   a. When the **Books** option is selected, the Setup program installs the complete *QA*Load online documentation set.

    b.   With the **Script Development Workbench** highlighted, click the **Change** button to select the EasyScript components for which you are licensed. Compuware recommends that you deselect the EasyScript components that you are not licensed for, as you will not be able to convert capture files with those components.

    c.   With **Player Files** highlighted, click the **Change** button to select which Player Agents to install. If you choose to install the Windows Player, the IP Spoof Datapool Generator will be installed automatically.

    d.   With the **NetLoad Server** option selected, both the TCP and UDP server modules will be installed.

    e.   Select **Conductor** to install the *QA*Load Conductor.

    f.   Select **Analyze** to install *QA*Load Analyze. If you have Compuware Central installed, you can publish Analyze reports to Compuware Central. Compuware Central can be installed from the *QA*Center Installation CD.

10. When you have finished making your selections, click **Next**. If the installation program cannot verify the location of your license file, installation will not be able to continue. If necessary, see Chapter 1, "Installing a Temporary License".

11. If this is a first-time installation, the QALoad Program Folder Selection dialog box opens. Click **Next** to accept the default installation folder, \Compuware\QALoad.

12. The QALoad Setup Settings dialog box opens, allowing you to verify your selections. Click **Next** to continue.

13. If a previous version of *QA*Load exists on this machine, the Prior Installation of QALoad dialog box opens. This dialog box contains important information about your existing *QA*Load files. After reviewing the information, click **Next** to continue, or **Back** to change your settings.

14. When the installation is complete, the View Readme dialog box appears. Choose whether to review the information in the *QA*Load Readme file. This file contains information about licensing your copy of *QA*Load, new features in the product, notes and issues that may enhance or impact *QA*Load's performance at your site, and information on how to contact Compuware. Click **Finish**.

15. If necessary, review and close the Readme file to continue with installation.

16. Click **OK**. Follow the prompts to complete the installation.

Note

If you purchased the EasyScript for Secure WWW module to test SSL (Secure Sockets Layer) or HTTPS calls that your browser/server may make, you will receive the appropriate encryption module on diskette. To install the module, insert diskette A into the floppy drive, then double-click the file **setup.exe** on the diskette.

Where To Go Next

- If Adobe Acrobat Reader is not installed on your workstation, return to the *QA*Load CD's Products Installation dialog box and click the **Get Acrobat** button to launch Adobe's installation program. You must have Adobe Acrobat Reader installed to view *QA*Load's books online in PDF format.

- To install a Player Agent on an additional workstation, follow Steps 1-16 on the previous pages. However, on the *QA*Load Component Selection dialog box, select to install *only* the appropriate Player Agent and deselect all other components.

- To install a UNIX Player Agent, see "UNIX Player Installation" on page 5-10.

- To obtain and install a permanent license for *QA*Load, see "Choosing a Permanent License Type" on page 9-1.

- To begin using *QA*Load, refer to the *QALoad Testing User's Guide*.

UNIX Player Installation

This section explains the procedures for installing a Player on a UNIX system. The necessary UNIX Player software is distributed with your *QA*Load installation.

Note The following procedure assumes that you have obtained and installed a *QA*Load license. If you have not, see "Installing a Permanent License" on page 9-1.

Load the Player Files

To load the DOS Player Agent file onto UNIX, you must FTP the files to the UNIX system and run the installation script. The files are located in the \Unix\<*platform*> directory of your *QA*Load installation (for example, c:\Program Files\Compuware \QALoad\Unix\Solaris).

1. If you are installing over a previous version of *QA*Load, shut down your existing Player Agent from a command prompt by typing the following: **pl_agent -t**

2. Use the **Run** command to FTP to the UNIX Player system.

3. If necessary, change directories to where you would like to FTP the tar file and installation file.

4. Set the mode to binary by typing: **`binary`**.

5. Put the tar and install file onto the UNIX system by typing:
    `put <tarfile>`

    `put <QALoadInstall>`

6. Type **chmod 755 QALoadInstall**.

7. Use the quit command to quit from FTP.

8. Log onto the UNIX system.

9. Run the file **QALoadInstall** and follow the prompts.

Note

If you restart the UNIX system, you will have to start the Player Agent manually by typing **pl_agent** in the installation directory.

Where To Go Next

- To begin using *QA*Load, refer to the *QALoad Testing User's Guide*.

Chapter 6. Installing *QA*Director 2.3

You can install *QA*Director on a stand-alone workstation or on a shared network drive so that other users can run the product from their local workstations. This chapter includes the following sections:

- **System Requirements —** Hardware and software requirements for *QA*Director.

- **Other Product Requirements —** Minimum release requirements for other Compuware products you can use with *QA*Director.

- **Installation Overview —** General steps required to install *QA*Director.

- **Upgrading QADirector to a New Release —** How to upgrade from a previous version of *QA*Director.

- **Installing QADirector on a Stand-alone Workstation —** How to install *QA*Director on a single workstation so that one person can use it.

- **Installing a Shared Network Copy of QADirector —** How to install *QA*Director on a shared network drive so it can be run from multiple workstations.

- **Modifying Product Options —** How to change product options, such as which testing tools you are using, after installation.

System Requirements

- IBM or IBM-compatible PC with a 16 MB, 486/66 processor or above
- Microsoft Windows 95, Windows NT 3.51 or 4.0, Windows 3.1, or Windows 3.11
- MS DOS 5.0 or above if you are using Windows 3.1 or Windows 3.11
- VGA monitor and adapter.
- Disk space requirements:
    - Stand-alone workstation installation: at least 25 MB
    - Network installation: at least 20 MB
    - Workstation installation from network: at least 8 MB

Other Product Requirements

The following products may be required, depending on which Compuware automated testing tools you have.

- *QA*Hiperstation Release 5.3.1 or above (Release 5.4 required to run MVS batch jobs)
- *QA*Hiperstation+ Release 1.0.1 or above
- *QA*Run 32-bit Release 4.1.2 or above
- *QA*Run 16-bit Release 3.0 or above
- *QA*Playback Release 5.6 or above

3270 Emulator

If you are using *QA*Hiperstation or *QA*Playback, or if you will be creating and executing MVS batch jobs, a 16-bit or 32-bit Windows 3270 terminal emulation software package is also required. For detailed information on the supported 3270 emulators and minimum version requirements, please read the *QA*3270 Emulator Server Readme.txt file or refer to the *QADirector Hardware and Software Checklist* you received with your order.

Installation Overview

These are the general steps required to install *QA*Director:

1. If this is your first installation of *QA*Director, you must install a temporary license key *before* you install the product as described in Chapter 1, "Installing a Temporary License".

2. Identify whether the product will run on a stand-alone workstation or a network.

3. Determine the installation directory for the program files (or accept the default destination).

4. Follow the appropriate network or stand-alone installation procedure in this chapter.

5. If you are integrating *QA*Hiperstation or *QA*Playback with *QA*Director, you must install the *QA*3270 Emulator Server (if you have not already done so). To install the *QA*3270 Emulator Server, insert the *QA*Center CD. Click **Install QACenter Products**. Click **Install QADirector**. Click **Install QA 3270 Emulator Server**.

Upgrading *QA*Director to a New Release

If you are upgrading *QA*Director, follow this procedure:

1. If you are installing *QA*Director on a Windows NT machine, you must log on as a user with administrative privileges for that Windows NT machine.

2. Before you upgrade *QA*Director, Compuware recommends that you back up your *QA*Director QADIR.DBM database and any other *QA*Director databases you may have created.

3. Insert the QACenter CD in the CD-ROM drive. On the QACenter screen, click **Install QACenter Products**.

4. Click **Install QADirector**.

5. Click **Install QADirector (16-bit)** on the *QA*Center Products Installation screen. The Install Options dialog box appears.

6. Click **Reinstall**. The Install Type dialog displays:
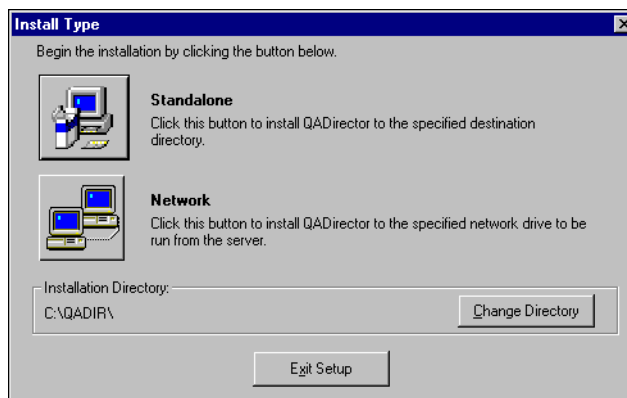
7. If you want to change the installation directory, click the **Change Directory** button and select the desired drive and directory. If you are re-installing *QA*Director on a network drive, you must change the directory to the appropriate network drive.

8. Click either the **Standalone** or **Network** button on the Install Type dialog box.

> **Hint**
>
> If you are re-installing *QA*Director on a network drive, you may not need to reinstall *QA*Director on each workstation. Refer to the *QA*Director Readme file for instructions.

9. When installation is complete, you are prompted to view the Readme file.

10. If you are integrating *QA*Hiperstation or *QA*Playback with *QA*Director, you must install the *QA*3270 Emulator Server (if you have not already done so). To install the *QA*3270 Emulator Server, insert the *QA*Center CD, click the **QADirector** button, and then click the **QA3270 Emulator Server** button.

Installing *QA*Director on a Stand-alone Workstation

Use this procedure to install *QA*Director on a stand-alone workstation, which allows one person at a time to use the product.

> **Note**
>
> Before you install *QA*Director, you must have a valid license installed. See Chapter 1, "Installing a Temporary License" or Chapter 4, "Installing a Permanent License" for instructions on installing a license.

1. Insert the *QA*Center CD into the CD-ROM drive. Click **Install QACenter Products** on the *QA*Center Products Installation screen.

2. Click **Install QADirector**.

3. Click **Install QADirector (16-bit)**. The Setup dialog box appears.

> **Note**
>
> If *QA*Director cannot verify the location of your license key, you are prompted to enter the fully qualified path of your license key. You may enter the path and name for a license file, or you may enter a license server, for example, **7166@*servername***. If a license key is not set up, you must exit the installation program and refer to Chapter 1, "Installing a Temporary License" for details on entering the temporary license key.

4. Read the instructions on the *QA*Director Setup dialog box and click **OK**. The Install Type dialog box displays:
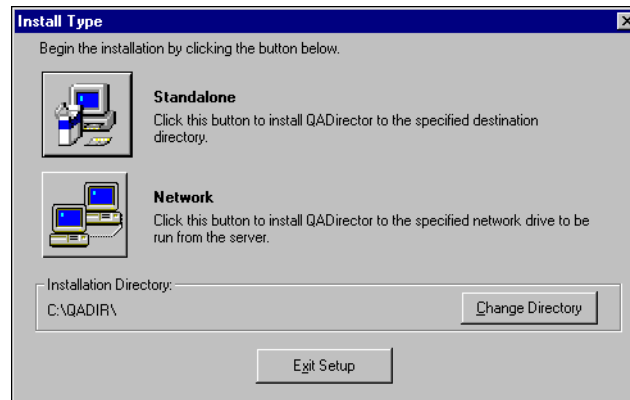
5. If you want to change the installation directory, click the **Change Directory** button and select the desired drive and directory.

6. Click the **Standalone** button on the Install Type dialog box. *QA*Director begins to copy the program files to the installation directory.

7. After the files are copied, you are prompted to select the automated testing tools you will be using with *QA*Director. Select the appropriate check boxes and click **OK**. Note that the testing tools listed in this dialog box may change, depending on which release of *QA*Director you are installing.
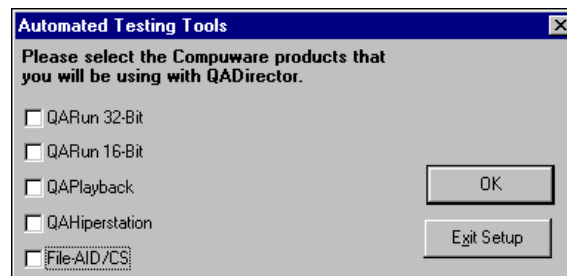
8. If prompted, enter additional setup information for the testing tools you selected.

9. By default, the *QA*Director icons are placed in a program group named Compuware *QA*Director. You can choose to place the icons in a different group or to enter a new program group name. When the program group is correct, click **OK**.

10. When installation is complete, you are prompted to view the Readme file.

11. If you are integrating *QA*Hiperstation or *QA*Playback with *QA*Director, you must install the *QA*3270 Emulator Server (if you have not already done so). To install the *QA*3270 Emulator Server, insert the *QA*Center CD. Click **Install QACenter Products**. Click **Install QADirector**. Click **Install QA 3270 Emulator Server**.

Where To Go Next

- If you are ready to begin using *QA*Director, refer to the *QADirector User's Guide*.

- If Adobe Acrobat Reader is not installed on your workstation, return to the *QA*Center CD browser and click **Install 3rd Party Software**, then click **Install Adobe Acrobat Reader** to launch Adobe's installation program. You must have Adobe Acrobat Reader installed in order to view *QA*Director's books online in PDF format.

Installing a Shared Network Copy of *QA*Director

Follow this procedure if you intend to install *QA*Director on a shared network drive and run it from multiple workstations. This installation is a two part process. First, you install *QA*Director on a network drive that is accessible by all users. Second, from each workstation where *QA*Director will be run, you perform an installation that copies certain program files from the network drive to the local workstation. This type of installation conserves local disk space because most program files are stored on the network drive.

Installing *QA*Director on a Network Drive

Use this procedure to install *QA*Director to a shared network drive, so that multiple users can run it from their local workstations. After you perform this procedure, you must perform an install procedure from each workstation where *QA*Director will be run. See "Setting up Each Workstation To Run the Shared Copy" on page 6-7.

> **Note**
>
> If this is the first time you have installed *QA*Director on this machine, you must install a temporary license key **before** you install the product. See Chapter 1, "Installing a Temporary License" for details on entering the temporary license key.

1. Insert the *QA*Center CD into the CD-ROM drive. Click **Install QACenter Products** on the *QA*Center screen.

2. Click **Install QADirector**.

3. Click **Install QADirector (16-bit)** on the *QA*Center Products Installation screen. The Setup dialog box appears.

> **Note**
>
> If *QA*Director cannot verify the location of your license key, you are prompted to enter the fully qualified path of your license key. You may enter the path and name for a license file, or you may enter a license server, for example, `7166@servername`. If a license key is not set up, you must exit the installation program and refer to Chapter 1, "Installing a Temporary License" for details on entering the temporary license key.

4. Read the instructions on the *QA*Director Setup dialog box and then click **OK**. The
    Install Type dialog box displays:
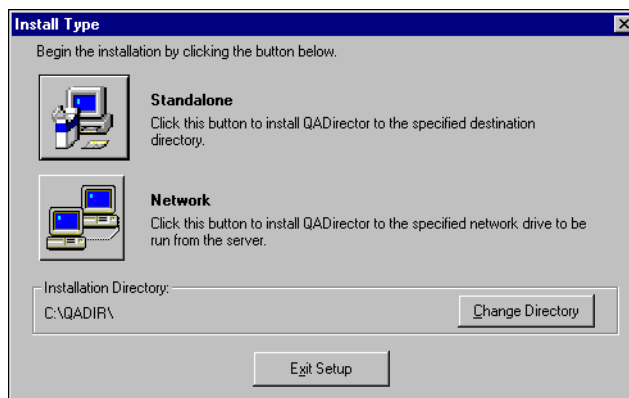
5. Click the **Change Directory** button and select the desired network drive and
    directory.

6. Click the **Network** button on the Install Type dialog box.

7. When installation is complete, you are prompted to view the Readme file.

8. To install required *QA*Director components from the network drive to a workstation,
    use the procedure in "Setting up Each Workstation To Run the Shared Copy".

Setting up Each Workstation To Run the Shared Copy

After the system administrator installs *QA*Director on your site's network drive, you must
install certain *QA*Director program files on each workstation where *QA*Director will be
run. Note that this procedure does *not* install the entire *QA*Director product on each
workstation. Most of the program files will reside on the network drive.

1. Use Windows Explorer or File Manager to locate the network drive and path where
    *QA*Director was installed.

2. Double-click the **Setup.exe** file.

3. When the first setup screen displays, click **OK**. *QA*Director displays the *QA*Director
    Setup dialog box.
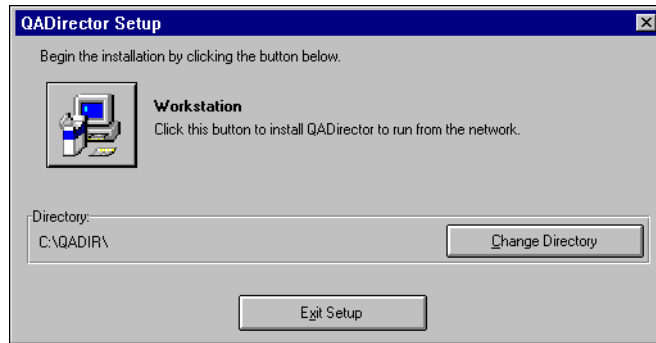
4. If you want to change the installation directory, click the **Change Directory** button and select the desired drive and directory.

5. Click the **Workstation** button on the Setup dialog. *QA*Director begins to copy the necessary workstation files to the installation directory.

6. After the files are copied, you are prompted to select the automated testing tools you will be using with *QA*Director. Select the appropriate check boxes and then click **OK**. Note that the testing tools listed in this dialog box may change, depending on the *QA*Director release you are installing.
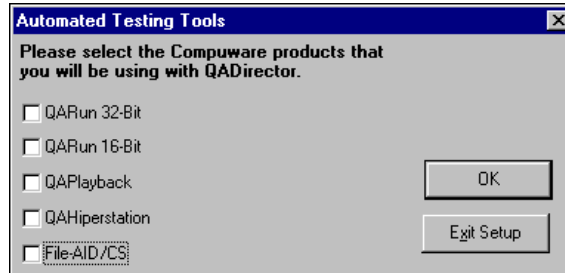
7. If prompted, enter additional setup information for the testing tools you selected.

8. By default, the *QA*Director icons are placed in a program group named Compuware *QA*Director. You can choose to place the icons in a different group or enter a new program group name. When the program group is correct, click **OK**.

9. *QA*Director updates your system and creates program icons. When the installation is complete, you are prompted to view the Readme file.

10. If you are integrating *QA*Hiperstation or *QA*Playback with *QA*Director, you must install the *QA*3270 Emulator Server (if you have not already done so). To install the *QA*3270 Emulator Server, insert the *QA*Center CD. Click **Install QACenter Products**. Click **Install QADirector**. Click **Install QA 3270 Emulator Server**. Or check with your network administrator to see if the *QA*3270 Emulator Server was installed on the network.

Where To Go Next

- If you are ready to begin using *QA*Director, refer to the *QADirector User's Guide*.

- If Adobe Acrobat Reader is not installed on your workstation, return to the *QA*Center CD browser and click **Install 3rd Party Software**, then click **Install Adobe Acrobat Reader** to launch Adobe's installation program. You must have Adobe Acrobat Reader installed in order to view *QA*Director's books online in PDF format.

Modifying Product Options

You do not need to re-install *QA*Director to modify its product options. Use the following procedure to change product options such as adding another testing tool to use with *QA*Director.

1. Double-click the **Change Options** icon in the *QA*Director program group. The Automated Testing Tools dialog box appears with your previous selections displayed.

2. Select the appropriate check boxes for the automated testing tools you want to use with *QA*Director. Depending on which testing tools you have selected, you may be prompted to enter additional information.

Chapter 7. Installing *QA*Track

You can install *QA*Track on a stand-alone workstation, or you can install *QA*Track on a shared network drive so that other users can run the product from their local workstation. This chapter includes the following sections:

- **System Requirements —** Hardware and software requirements for installing *QA*Track.

- **Upgrading to a New Release —** How to upgrade from a previous version of *QA*Track.

- **Installing QATrack on a Stand-Alone Workstation —** How to install *QA*Track on a single workstation so that one person can use it.

- **Installing a Shared Network Copy of QATrack —** How to install *QA*Track on a shared network drive so it can be run from multiple workstations

System Requirements

- IBM or IBM-compatible PC with a 16 MB, 486/66 processor or above
- Microsoft Windows 95, Windows NT 3.51 or 4.0, Windows 3.1, or Windows 3.11
- MS DOS 5.0 or above if you are using Windows 3.1 or Windows 3.11
- CD-ROM drive
- VGA monitor and adapter

Upgrading to a New Release

If you are upgrading *QA*Track, follow the appropriate procedure in this chapter for installing *QA*Track on a stand-alone workstation or on a network drive. The installation will not overwrite your user database or other customized files.

Installing *QA*Track on a Stand-Alone Workstation

Use this procedure to install *QA*Track on a stand-alone workstation, which allows one person at a time to use the product.

Note	Before you install *QA*Track, you must have a valid license installed. See Chapter 1, "Installing a Temporary License" or Chapter 4, "Installing a Permanent License" for instructions on installing a license.

1. To install *QA*Track on a Windows NT machine, you must log on as a user with administrative privileges for that Windows NT machine.

2. Insert the *QA*Center CD in the CD-ROM drive. On the *QA*Center screen, click **Explore this CD**.

3. Navigate to the \CPWR*QA*Track directory on the CD.

4. Double-click the setup.exe file. The Welcome screen appears.

5. Read the *QA*Track Welcome screen and click **Next**.

6. Read the software license agreement and click **Yes** if you accept. The Choose Destination Location dialog box appears.

7. By default, *QA*Track is installed in C:\CPWR*QA*Track. To install to a different directory, click **Browse** and select another folder. When the destination directory is correct, click **Next**. The Setup Type dialog box displays these options:
   - Network
   - Standalone

8. Click **Standalone** and then click **Next**. The Select Program Folder dialog box appears.

9. By default, the setup program will add the *QA*Track program icons to the Compuware *QA*Track program folder. You may type a new folder name, or select one from the folder list. When the program folder is correct, click **Next**.

10. When the installation is complete, the Setup Complete dialog box appears. Click **Finish** to view the Readme file.

Where To Go Next

- If you are ready to begin using *QA*Track, refer to the *QATrack User's Guide*.

- If Adobe Acrobat Reader is not installed on your workstation, return to the *QA*Center CD browser and click **Install 3rd Party Software**, then click **Install Adobe Acrobat Reader** to launch Adobe's installation program. You must have

Adobe Acrobat Reader installed in order to view *QA*Track's books online in PDF format.

Installing a Shared Network Copy of *QA*Track

Follow this procedure if you intend to install *QA*Track on a shared network drive and run it from multiple workstations. This installation is a two part process. First, you install *QA*Track on a network drive that is accessible by all users. Second, from each workstation where *QA*Track will be run, you perform an installation that copies certain program files from the network drive to the local workstation. This type of installation conserves local disk space because most program files are stored on the network drive.

Installing *QA*Track on a Network Drive

Use this procedure to install *QA*Track to a shared network drive, so that multiple users can run it from their local workstations. After you perform this procedure, you must perform an install procedure from each workstation where *QA*Track will be run. See "Setting up Each Workstation To Run the Shared Copy" on page 7-4.

Note

Before you install QATrack, you must have a valid license installed. See Chapter 1, "Installing a Temporary License" or Chapter 4, "Installing a Permanent License" for instructions on installing a license.

1. If you are installing *QA*Track on a Windows NT machine, you must log on as a user with administrative privileges for that Windows NT machine.

2. Insert the QACenter CD in the CD-ROM drive. On the QACenter screen, click **Explore this CD**.

3. Navigate to the \CPWR*QA*Track directory on the CD.

4. Double-click the setup.exe file. The Welcome screen appears.

5. Read the *QA*Track Welcome screen and click **Next**.

6. Read the software license agreement and click **Yes** if you accept.

7. On the Choose Destination Location dialog box, click **Browse** and select the network folder. When the destination directory is correct, click **Next**. The Setup Type dialog box displays these options:

    •   Network
    •   Standalone

8. Click **Network** and then click **Next**. *QA*Track begins to copy the program files to the destination directory on the network.

9. When installation is complete, the Setup Complete dialog box appears. Click **Finish** to view the Readme file.

10. To install required *QA*Track components from the network drive to a workstation, use the procedure in "Setting up Each Workstation To Run the Shared Copy".

Setting up Each Workstation To Run the Shared Copy

After the system administrator installs *QA*Track on your site's network drive, you must install certain *QA*Track program files on each workstation where *QA*Track will be run. Note that this procedure does **not** install the entire *QA*Track product on each workstation. The majority of the program files will reside on the network drive.

> **Note**
>
> You must configure your product license before you install *QA*Track on a workstation. See "Choosing a Concurrent-User License" on page 4-7 for instructions on installing a license on a workstation.

1. If you are installing *QA*Track on a Windows NT workstation, you must log on as an administrator.

2. Use Windows Explorer or File Manager to locate the network drive and path where *QA*Track was installed.

3. In the Setup folder, double-click the setup.exe file. The Welcome screen appears.

4. Read the instructions on the Welcome screen and click **Next**.

5. Read the software license agreement and click **Yes** if you accept. The Choose Destination Location dialog box appears.

6. By default, *QA*Track is installed in C:\CPWR\QATrack. To install to a different directory, click **Browse** and select another folder. When the destination directory is correct, click **Next**. The Select Program Folder dialog box appears.

7. By default, the setup program adds the *QA*Track program icons to the Compuware *QA*Track program folder. You may type a new folder name, or select one from the folder list. When the program folder is correct, click **Next**.

8. When the installation is complete, the Setup Complete dialog box appears. Click **Finish** to view the Readme file.

Where To Go Next

- If you are ready to begin using *QA*Track, refer to the *QATrack User's Guide*.

- If Adobe Acrobat Reader is not installed on your workstation, return to the *QA*Center CD browser and click **Install 3rd Party Software**, then click **Install Adobe Acrobat Reader** to launch Adobe's installation program. You must have

Adobe Acrobat Reader installed in order to view *QA*Track's books online in PDF format.

Chapter 8.   Installing Compuware Central

Compuware Central is a browser-based utility that lets you view report data generated by *QA*Run, *QA*Load, and WebCheck. Any workstation with Internet Explorer 4.0 or above can view reports published to Compuware Central. This chapter explains how to install the Compuware Central server and client components. It includes the following sections:

- **System Requirements** — Hardware and software requirements for installing Compuware Central.

- **Compuware Central Installation** — Instructions for installing Compuware Central's server and client components.

- **Changing UNC Name and URL to Compuware Central** — Instructions for using the Compuware Central Configuration utility to maintain access to Compuware Central if its server location changes.

System Requirements

For the server running Compuware Central:

- Internet Information Server 4.0 or above
- Sufficient disk space for reports generated by *QA*Center products in HTML format.

For each client accessing reports published to Compuware Central:

- Internet Explorer 4.0 or above to view reports published to Compuware Central
- IBM or compatible PC with a 486 processor or above (Pentium recommended)
- 32 MB of RAM for Windows 95, Windows 98, or Windows NT 4.0
- Access to the Compuware Central client setup program on the server.

Compuware Central Installation

The Compuware Central installation has two main procedures:

Installing Compuware Central on the Server — Installs Compuware Central's server components and creates the setup program used to install Compuware Central on a client workstation. It also installs the Compuware Central Configuration utility, which the system administrator can use to reset the Universal Naming Convention (UNC) name and URL for accessing Compuware Central.

Installing Compuware Central on a Client Workstation — Installs Compuware Central on a client workstation.

Installing Compuware Central on the Server

The server installation process sets up the general locations (the UNC name and URL) on the server where Compuware Central clients store and access reports published in HTML format. It also installs the Compuware Central Configuration utility on the server, and the setup program that the clients must access to install the Compuware Central client. The client setup program is located in a folder called **setup,** which is a sub-folder of the destination location for the Compuware Central Configuration utility. Once created by the server installation, both the **setup** folder and the location where Compuware Central clients store and access HTML reports on the server must be shared to provide client access.

Note

You must log on as a user with administrator privileges to install Compuware Central to a server.

To perform the server installation of Compuware Central, follow these steps.

1. On the server machine on which you are installing Compuware Central, insert the *QA*Center CD into the CD-ROM drive.

   The *QA*Center setup should automatically start. If it does not, use Windows Explorer to navigate to the setup program, located in the Compuware Central folder on the CD.

2. Click **Install *QA*Center Products**.

3. Click **Install Compuware Central**. The Compuware Central install program starts and displays the Welcome dialog box.

Note

The Compuware Central server requires that Microsoft's Internet Information Server 4.0 or above be installed on the server machine. If the installation program does not detect Internet Information Server 4.0 or above, it issues a message that a compatible Web server is not installed. If this happens, click **OK** to abort the installation. Install Internet Information Server 4.0 or above on the machine, then restart the Compuware Central installation from the *QA*Center CD.

4. After reviewing information in the Welcome dialog box, click **Next**. The Compuware Central Software License Agreement dialog box displays.

5. Read the software license agreement and click **Yes** to accept the terms of the agreement. The User Information dialog box displays with the name of the user and company taken from the registry.

6. Click **Next** to confirm the Name and Company values are correct. The Choose Destination Location dialog box displays.

Note

The destination location in this dialog box is the location for the Compuware Central Configuration Utility only. During installation, setup detects the location of the *wwwroot* folder on the server. Compuware Central program files are copied to a new sub-folder of *wwwroot* called **/slc**.

7. Select a location for the Compuware Central Configuration utility. By default, the Compuware Central Configuration utility for the server installs to C:\Program Files\Compuware\Central. To specify a different location, click the **Browse** button and select an existing directory.

8. Click **Next**. The Enter Locations dialog box displays the default locations for the UNC path name and URL where clients will store and access the *QA*Center reports published in HTML format. The defaults are:

UNC Name: **\\[*machine name*]\Compuware Central**

URL: **http://[*machine name*]/slc**

Where *machine name* is the server name as recognized by your network.

9. Click **Next**. The Compuware Central Shortcut Folder dialog box displays. Verify the location where the program icons will be added.

10. Click **Next**. The Start Copying Files dialog box displays and allows you to review your installation selections.

11. Click **Next** to begin the installation. The installation copies Compuware Central Configuration utility program files to the specified destination, as well as program

files for Compuware Central. The server installation also creates a sub-folder called **setup**. The setup sub-folder contains the Compuware Central client installation setup program.

12. When the server installation completes, the Setup Complete dialog box displays. Click **Finish** to complete the server installation of Compuware Central. Proceed to "Sharing Folders on the Server" to share the necessary folders on the server for the client installation.

Sharing Folders on the Server

Before performing the client installation of Compuware Central, you must share the folders on the server where the setup files are located and the reports will be stored. Sharing these folders allows the client machines to access the client installation program of Compuware Central and to store and access HTML reports in Compuware Central.

1. On the server machine, share the following directory:

   \Program Files\Compuware\Central\Setup

   Access this setup directory from client machines by mapping to:

   \\[*machine name*]\[setup folder]

   Where *machine name* is the machine name of the server and *setup folder* is the folder that contains the Compuware Central client setup program (**... \Program Files\Compuware Central\Setup** is the default). This allows client users to access the client setup program.

2. On the server machine, share the following directory:

   \\[*machine name*]\Inetpub\wwwroot\slc\Data\Channels\Public Channels

   This directory contains the tree structure used by Compuware Central to store HTML reports generated by *QA*Center products. Sharing the folder allows clients to write HTML reports for viewing in Compuware Central. Refer to your Windows documentation for instructions on sharing folders.

   Client machines can access this directory by mapping to:

   \\[*machine name*]\Compuware Central

3. To install Compuware Central on a client machine from the server installation, follow the procedure in "Installing Compuware Central on a Client Workstation" on page 8-5.

Installing Compuware Central on a Client Workstation

The Compuware Central client installation installs the Compuware Central client from a shared folder on a server to a workstation. The installation creates registry entries that contain the location to access reports in Compuware Central written by *QA*Center products. Perform the following procedure on each client workstation to install Compuware Central.

1. In Windows Explorer, map a network drive to the directory on the server where Compuware Central is installed.

2. Navigate to the Compuware Central setup folder on the server where Compuware Central is installed. This folder should be **[machine name]\[setup folder]**, where *machine name* is the name of the server where Compuware Central is installed. This folder was shared in step 2 of "Sharing Folders on the Server".

3. Double-click the SETUP.EXE file located in the Setup folder. The Compuware Central client installation program starts and displays the Welcome dialog box.

4. After reviewing information in the Welcome dialog box, click **Next**. The Compuware Central Software License Agreement dialog box displays.

5. Read the software license agreement and click **Yes** to accept the terms of the agreement.The User Information dialog box displays with the name of the machine and company name taken from the registry.

6. Click **Next** to confirm the Name and Company values are correct. The Choose Destination Location dialog box displays.

7. Select a location for the Compuware Central Configuration utility. By default, the Compuware Central Configuration utility is installed to C:\Program Files\Compuware\Central. To specify a different location, click the **Browse** button and select an existing directory.

8. Click **Next**. The Enter Locations dialog box appears, displaying the UNC Name and URL to access locations. Verify that the locations are correct.

⚠️
Caution

Do not change the UNC name and URL listed in this dialog box unless you are instructed to do so by the system administrator. Changing these values could result in losing access to Compuware Central.

9. Click **Next**. The Compuware Central Shortcut Folder dialog box displays. Verify the location where the program icons will be added.

10. Click **Next**. The Start Copying Files dialog box displays and allows you to review your installation selections.

11. Click **Next** to begin installing the program files. When the client installation completes, the Setup Complete dialog box displays. Click **Finish** to complete the client installation of Compuware Central.

Changing UNC Name and URL to Compuware Central

At times it may be necessary to change the UNC path name and URL used to access Compuware Central. The Compuware Central Configuration Utility allows you to reset the UNC Path and URL without having to reinstall Compuware Central.

Complete the following procedure on both the server where Compuware Central resides and each client workstation that accesses Compuware Central. As with the client installation, the system administrator can perform the server procedure, then send instructions to users to perform the procedure on their workstations.

1. Start the Compuware Central Configuration utility:

   • From the Windows taskbar, click the **Start** button and choose **Programs>Compuware>Central**.

   • Select **Compuware Central Configuration Utility** from the program group. The Configuration utility displays current values in the UNC Name and URL fields.

2. Type the new UNC Path and URL where Compuware Central can be accessed.

3. Click **OK**.

4. Perform steps 1 through 3 on the client workstations.

Chapter 9.   Installing a Permanent License

To run your *QA*Center product without interruption, you must install a valid permanent license, which provides access to the product for a single or multiple users under the terms of your contract with Compuware. There are two types of Compuware licenses:

- A *temporary license* is the default license shipped with the product. This type of license gives an unlimited number of users access to the product for a limited time period, allowing you to use the product on a trial basis. For more information, see Chapter 1, "Installing a Temporary License".

- A *permanent license* gives you access to the product under the terms of your con-tract with Compuware. Compuware offers two types of permanent licenses: single-user and concurrent-user. Each of these types is described below.

Note

Please note that Compuware Central does not require a license. If you are only installing Compuware Central proceed to Chapter 8, "Installing Compuware Central".

Choosing a Permanent License Type

Two types of permanent license are available. The type of license you choose depends upon the specific needs of your site.

- *Single-User* — If you only need one copy of the *QA*Center product on one worksta-tion, a permanent single-user license should meet your needs. This type of license allows the product to run on a single workstation. The product cannot be used on any other workstation.

- *Concurrent-User* — If you need to run the *QA*Center product on more than one workstation so multiple users can access it, a permanent concurrent-user license should best meet your needs. This type of license is installed on a machine that acts as a server to any number of workstations that have access to it. It allows a pre-determined number of users on different workstations to use a product at the same time. You can install the product on any number of workstations. Your license deter-mines how many users may access the product at a time.

To obtain a permanent license, you must provide Compuware with the host name (for concurrent-user licenses only) and host ID of the machine on which you installed the product or the Compuware LM. This machine may be a single workstation for a single user, or a machine that acts as a server for concurrent users. Compuware provides you with a permanent license that is customized for your needs.

As you consider which type of permanent license you need, keep in mind that each product license is individually created to work on a specific machine. It cannot be transferred to another machine. After you determine which type of license best fits your needs, proceed to the appropriate installation instructions:

- "Installing a Single-User License on Windows 95, 98, or NT" on page 9-2.
- "Installing a Single-User License on UNIX or Windows 3.1x" on page 9-5
- "Choosing a Concurrent-User License" on page 9-7.

Installing a Single-User License on Windows 95, 98, or NT

Complete the following tasks to install a permanent single-user license:

- Determine the host name and ID of the machine where the *QA*Center product is installed.
- Obtain the permanent license.
- Enter the license information in the license file.

Detailed instructions for performing these tasks are provided in this section.

Caution

A single-user license is valid for one workstation only — the workstation with the host ID you supply to Compuware. You cannot use the license on any other workstation.

Determining the Host Name and ID

1. Insert the *QA*Center CD in the CD-ROM drive. On the *QA*Center screen, click **Install QACenter Products**. The *QA*Center Products installation screen appears.

2. Click **Run License Administration Utility**. The License Administration Utility (LAU) opens, displaying the host name and host ID of the machine at the bottom of the dialog box.

3. To save the host information to a file, select **Save Host Information** from the **Tools** menu. By default the file is named `hostinfo.txt`. Navigate to the directory you want to save the file in and click **Save**.

Note You should save the host information to a file if you want to keep a record of it. You can also e-mail this file to license_mgt@compuware.com to obtain a permanent license for your Compuware product. See "Obtaining License Information" on page 9-3.


Obtaining License Information

After you obtain the host information, contact your Compuware Sales Representative to obtain the required single-user license information. You can also e-mail the file hostinfo.txt to license_mgt@compuware.com to obtain a permanent license. Compuware will provide you with personalized license information by e-mail, fax, or regular mail.

Entering License Information

After you receive the permanent license from Compuware, you need to enter the license information into your license file. To do this you will use the License Administration Utility (LAU) on the *QA*Center CD-ROM.

1. Check for the existence of a license file on the machine:

   • If a Compuware product is already installed on this machine, find the license file. It should be named license.dat and be in the directory \Program Files\Compuware\License (or \cpwr) on the drive where the product is installed.

   • If a license file does not exist for a Compuware product, create a directory on the drive where your operating system is installed called \Program Files\Compuware\License. This directory may have already been created for a temporary license or another Compuware product. You will install your permanent license in this directory.

2. Insert the *QA*Center CD in the CD-ROM drive. On the *QA*Center screen, click **Install QACenter Products**. The *QA*Center Products installation screen appears.

3. Click **Run License Administration Utility**. On the LAU main window, click **Install License**. The Install License Files dialog box appears.
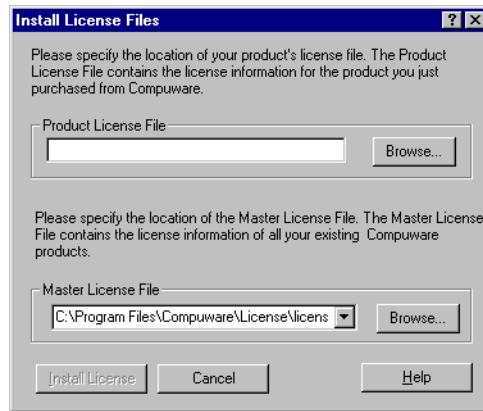
4. Click the **Browse** button next to the **Product License File** field to navigate to the product license file. This is the permanent license file that you received from Compuware.

5. Click the **Browse** button next to the **Master License File** field to navigate to the master license file. This file is called license.dat and is in the directory \Program Files\Compuware\License (or \cpwr). If you just created the license directory in Step 1, navigate to it and create a new file by typing license.dat in the **File Name** field. Click **Open** to select the new license file as your master file.

6. Click **Install License**. This installs the product license file to your master license file. A message appears when the file has been successfully installed.

Setting the Environment Variable

Check that the environment variable called LM_LICENSE_FILE is set. If it is not set, use the appropriate procedure below to set it.

Windows 95, or 98:

1. Insert the *QA*Center CD in the CD-ROM drive. On the *QA*Center screen, click **Install QACenter Products**. The *QA*Center Products installation screen appears.

2. Click **Run License Administration Utility.** From the **Tools** menu on the LAU main window, choose **Set License Location**. The Set License File Variable dialog box displays the current environment variable setting.

3. If the variable LM_LICENSE_FILE is not set to the license.dat file, click the **Browse** button and navigate to the license file. Click **Open** to add the file to the LM_LICENSE_FILE variable.

4. Click **OK** to save your changes. LAU sets the entry LM_LICENSE_FILE in your autoexec.bat file.

5. When prompted to create a backup of your autoexec.bat file, click **Yes.** The back up file is named autoexec.0XX (where X=1 through 99).

6. Reboot the computer for the changes to take effect.

Windows NT:

In Windows NT, you must set the environment variable from the System Properties dialog box in the Windows control panel.

1. From the **Start** menu, select **Settings>Control Panel>System**. On the System dialog box, click the **Environment** tab.

2. In the **Variable** field, type LM_LICENSE_FILE.

3. In the **Value** field, type the fully qualified path of your license file. C:\Program Files\Compuware\License\license.dat (or \cpwr\license.dat). Click the **Set** button.

4. Reboot the computer for the changes to take effect.

Installing a Single-User License on UNIX or Windows 3.1x

Complete the following tasks to install a permanent single-user license:

- Determine the host ID of the workstation where the *QA*Center product is installed.
- Obtain the permanent license.
- Enter the license information in the license file.

Detailed instructions for performing these tasks are provided in this section.

⚠ Caution   A single-user license is valid for one workstation only — the workstation with the host ID you supply to Compuware. You cannot use the license on any other workstation.

Determining the Host ID

1. If necessary, create a directory on the drive where your operating system is installed called \cpwr, or /cpwr/license on UNIX platforms. This directory may have already been created for the temporary license or another Compuware product.

2. Copy the contents of the appropriate subdirectory on the *QA*Center CD-ROM to the license directory you created on the machine:

   Windows: Copy the contents of directory \cwlm\cwlmw32.*xx*, where *xx* is a version number of the license program.

   UNIX: Copy the appropriate files of the platform-specific subdirectory within the directory /cpwr/cwlm.

3. Change to your license directory:

   Windows: Open a DOS session and change to the directory \cpwr.

   UNIX: Change to the directory ⁄cpwr/license.

4. Type: `lmutil lmhostid`. A host ID message like the following is displayed:
   ```
   The FLEXlm host ID of this machine is "00c04fd9ed02"
   ```

5. Record the host ID for use in the next procedure, "Obtaining License Information".

Obtaining License Information

After you obtain the host information, contact your Compuware Sales Representative to obtain the required single-user license information. You can e-mail the host information to license_mgt@compuware.com to obtain a permanent license. Compuware will provide you with personalized license information by e-mail, fax, or regular mail.

Entering License Information

After you receive the permanent license from Compuware:

1. Check for the existence of a license file on the machine:

   • If a Compuware product is already installed on this machine, find the license file. It should be named license.dat, and should be in the directory \cpwr (or ⁄cpwr/license on UNIX platforms) on the drive where the product is installed. Open the license file in a text editor such as Notepad or vi and go to Step 4.

   • If the product is not installed on this machine, check to see if a license.dat file already exists on the machine for a Compuware product. If it already exists, use that file for the *QA*Center product. Open the license file in a text editor such as Notepad or vi and go to Step 4.

   • If a license file **does not** exist for a Compuware product, go to Step 2.

2. On the drive where your operating system is installed, create a directory called \cpwr (or ⁄cpwr/license on UNIX platforms).

3. Create a file called license.dat using a text editor such as Notepad, and save it in the directory you created in Step 2.

4. If you received the license string via e-mail, paste it from the e-mail into the license file. If not, type it into the license file. Commented information (preceded with a #) is for your reference only; you do not need to include it in the file.

⚠ **Caution**

Enter the license information exactly as you received it. This information is *case sensitive*.

- **If you are entering the first license in the file**: Enter the license information you received, as in the following example:

```
SERVER ServerName 0020af9adb94 TCP:7166
DAEMON compuware compuwar
FEATURE QARun Compuware 4.600 12-jan-1999 10 6C74309CB84A9F07C5ED\
VENDOR_STRING=989898;0;PERM ck=12
```

- **If the license file is already used for a product**: Append only the lines beginning with FEATURE and ending with `ck=##`, where `##` is a numeric string, to the end of the license file. For File-AID/CS, also include the PACKAGE line.

5. Save your changes to the license file and exit the text editor.

6. Check that the LM_LICENSE_FILE environment variable is set to the path to the license file. If it is **not** set, use the appropriate procedure below. These procedures assume that the file is in the directory c:\cpwr (Windows) or /cpwr/license (UNIX).

Hint

If the LM_LICENSE_FILE variable is already defined for a product, type a semicolon (Windows) or colon (UNIX) to separate previously set paths. Then type the path to the *QA*Center license file. For example: LM_LICENSE_FILE=c:\mccabe\license.dat**;** C:\Program Flles\Compuware\License\license.dat.

Windows 3.1x:
Using a text editor, open the autoexec.bat file and add the following line.
set LM_LICENSE_FILE=c:\cpwr\license.dat

UNIX:
Set the **LM_LICENSE_FILE** environment variable in the user profile file to the path to the license file, as shown in either of these two examples:

setenv LM_LICENSE_FILE=/*full-path-to-license-file*/license.dat (csh)

-export LM_LICENSE_FILE=/*full-path-to-license-file*/license.dat (ksh)

7. For Windows workstations, reboot the machine for these changes to take effect.

Choosing a Concurrent-User License

Concurrent-user licensing allows you to purchase a specific number of licenses without assigning these licenses to particular workstations. Instead, licenses are "checked out" by users on a first-come, first-served basis when they access the product. When all available licenses are issued, no additional users can run the product until another user exits and a license is "checked in." This request-and-issue process is managed by the Compuware License Manager (LM). The LM must be running on a computer or server that is always available to all client workstations needing access to the product.

Selecting the Compuware License Manager Server

If you are installing a permanent license for concurrent users, the Compuware LM must be running on a stable Windows (95, 98, or NT) or UNIX machine that is hereafter referred to as the *License Manager server* (LM server). The LM server is a computer or server machine that is always available to users. It does not have to be an actual network server, but it must be a machine to which the entire network or group of people using the *QA*Center product has access. Before contacting Compuware for a permanent concurrent-user license, you must select a machine on which to install the Compuware LM. This machine will be your LM server.

If the LM is already installed for a Compuware product, you may not need to re-install it. You can use one LM server for multiple Compuware products. For more information, see the appropriate section for your platform:

- **Windows** — See "Installing a Concurrent-User License on Windows" on page 9-8.
- **UNIX** — See "Installing a Concurrent-User License on UNIX" on page 9-15.
- **Novell TCP/IP** — See "Installing a Concurrent-User License on Novell TCP/IP" on page 9-19.
- **Novell IPX/SPX** — See "Installing a Concurrent-User License on Novell IPX/SPX" on page 9-24.

Installing a Concurrent-User License on Windows

Complete the following tasks to install a permanent concurrent-user license:

- Determine the host name and ID of the machine that will be the LM server.
- Obtain the permanent concurrent-user license.
- Install or update the LM.
- Install the permanent license on the LM server.
- Configure the LM for automatic startup.
- Configure each user workstation that will access the LM server.
- If necessary, configure the LM for manual shutdown.

Detailed instructions for performing these tasks are provided in this section.

Determining the Host Name and ID

In order to receive a permanent license, you must supply Compuware with the host name and the host ID of the machine on which the license will be installed.

1. Insert the *QA*Center CD in the CD-ROM drive. On the *QA*Center screen, click **Install QACenter Products**.

2. Click **Run License Administration Utility**. The License Administration Utility (LAU) opens, displaying the host name and host ID of the machine at the bottom of the dialog box.

3. To save the host information to a file, select **Save Host Information** from the **Tools** menu. By default, the file is named `hostinfo.txt`. Navigate to the directory in which you want to save the file and click **Save**.

> **Note**
>
> You should save the host information in a file if you want to keep a record of it. You can also e-mail this file to license_mgt@compuware.com to obtain a permanent license for your Compuware product. See "Obtaining License Information" on page 9-9.

Obtaining License Information

After you obtain the host information, contact your Compuware Sales Representative to obtain the required single-user license information. You can also e-mail the host information to **license_mgt@compuware.com** to obtain a permanent license. Compuware will provide you with personalized license information by e-mail, fax, or regular mail.

Installing or Updating the License Manager

The machine on which a concurrent-user license and the LM is installed is called the LM server. It must always be available to workstations using Compuware products because it monitors product licensing. For more information, see "Selecting the Compuware License Manager Server" on page 9-8.

*   If this is a first-time installation of the LM on this machine, go to "Installing the LM" on page 9-9.

*   If a previous version of the LM is on this machine, you may need to install the current version. Go to "Updating the LM" on page 9-10.

Installing the LM

Use this procedure to complete a first-time installation of the LM:

1. Insert the *QA*Center CD and click **Install QACenter Products**. Click **Install Compuware LM**.

2. The Welcome dialog box opens. Click **Next**.

3. Read the Software License Agreement and click **Yes** if you accept.

4. The Choose Destination Location dialog box displays the directory where the LM will be installed: \Program Files\Compuware\License. Click **Next**.

5.   By default, the setup program will add the LM program icons to the Compuware>License Management folder. You can choose a different folder. When the folder is correct, click **Next**.

6.   On the Start Copying Files dialog box, verify the installation settings and click **Next**.

7.   When the installation is complete, the Setup Complete dialog box appears. If you have the permanent license, you can install it now. If you install the license now, you can configure the LM for automatic startup when you are finished.

   •   If you do not have a permanent license for your *QA*Center product, deselect the **Install License** option and click **Finish**. See "Determining the Host Name and ID" on page 9-8 for information on receiving a permanent license.

   •   To install your permanent license, select the **Install License** option and click **Finish**. The LAU opens. See Step 3 of "Installing a Permanent License".

Updating the LM

If the LM is already installed, you may not need to install it again because it can be used for multiple Compuware products. Before you re-install the LM, check its version number to determine if it is the latest version available to you. If you just installed the LM for another Compuware product, you have the current version and do not need to update it. Complete the following procedure to determine the version that is running on the LM server.

1.   Open a DOS window and change to the directory where the LM is located.

2.   At the DOS prompt, enter: **lmutil lmver lmgrd.exe**. A message like the following displays the FLEXlm version number of the LM:

```
lmutil - Copyright (C) 1989-1997 Globetrotter Software, Inc.
FLEXlm Copyright 1988-1996, Globetrotter Software, Inc.
FLEXlm 5.12a (libmgr_s.a), Copyright (C) 1988, 1997 Globetrotter Software,Inc.
```

3.   Insert the *QA*Center CD in the CD-ROM drive. At the DOS prompt, change to the CD-ROM drive and enter **lmutil lmver lmgrd.exe** again.

4.   Compare the version number returned from the server with that on the CD-ROM:

   •   If the version number returned from the server is higher than the version on the CD-ROM (for example, if your LM version is 5.12 and that on the CD-ROM is 5.0), do not update the LM.

   •   If the version number returned from the server is below that on the CD-ROM, you need to update your version of LM.

5.   To update the LM, insert the QACenter CD and click **Install QACenter Products**. On the *QA*Center Products installation screen, click **Install Compuware LM**. The Setup program will install the new version of the LM.

Installing a Permanent License

After you receive the permanent license from Compuware, you need to enter the license information into your license file. To do this you will use the LAU. If you have not installed the Compuware License Manager, you must do that before you install your license. For information, see "Installing the LM" on page 9-9.

1. From the **Start** menu, select **Programs>Compuware>License Manage-ment>License Administration Utility**. Or, using Windows Explorer, navigate to the directory \Program Files\Compuware\License (or \cpwr). Double-click the icon for the file LAU.exe to start the LAU.

2. On the LAU main window, Click **Install License**. The Install License dialog box appears.

3. Click **Browse** to navigate to the product license file. This is the permanent license file you received from Compuware.

4. Click **Browse** to navigate to the master license file. This file is called license.dat and is located in the directory \Program Files\Compuware\License (or \cpwr). If you do not have a license file for another Compuware product, navigate to the directory \Program Files\Compuware\License (or \cpwr) and create a new file by typing license.dat in the **File Name** field. Click **Open** to select the new license file as your master license file.

5. When you have selected the correct product and master license files, click **Install License**. This installs the product license file to your master license file. A message appears when the file has been successfully installed. Click **OK**.

6. Click the **Exit** button on the LAU main window. The Setup Finished dialog box appears. You may restart the computer at this time, or you can choose to restart it later.

Configuring the License Manager for Automatic Startup

Because all license validation is done by the LM, it must be started and kept running in order to use Compuware products. Complete the appropriate procedure to automatically start the LM each time the LM server is started.

Note

For Windows NT 4.0 and above, Compuware recommends that automatic LM startup be set up as an NT service. NT service installation should be performed by, or in the presence of, a certified Windows NT Administrator.

Windows NT 4.x as NT Service

1. Update the DAEMON line in the license file so that it contains the full path of the compuwar.exe, for example:

```
DAEMON compuware c:\Program
Files\Compuware\License\compuwar.exe
```

2. At a DOS prompt, change to the directory where the LM is located (\Program Files\Compuware\License). Type the following command on one line:

```
installs -e c:\Program Files\Compuware\License\lmgrd.exe -c
c:\Program Files\Compuware\License\license.dat -l
c:\Program Files\Compuware\License\lmgrd.log
```

   where c:\Program Files\Compuware\License is the directory where the LM is located and *license.dat* is the name of your license file. (Your license.dat file may reside in\cpwr\license.dat.)

3. Compuware LM now appears in the list of services. To start it, reboot the NT server. If you do not want to reboot the NT server, you can manually start the LM by selecting it from the services list.

Windows 95, 98, or NT 4.x in Startup Folder

1. Select **Start>Settings>Taskbar**. On the **Start Menu Programs** tab, click the **Add** button. The Create Shortcut window is displayed.

2. In the **Command Line** box, type:

```
c:\Program Files\Compuware\License\lmgrd.exe -app -c c:\Program
Files\Compuware\License\license.dat
```

   where c:\Program Files\Compuware\License is the directory where the LM is located and *license.dat* is the name of your license file.(Your license.dat file may reside in\cpwr\license.dat.)

3. Click **Next**. The Select Program Folder dialog box appears.

4. Select the **Startup** folder and click **Next**. The Select a Title for the Program dialog box appears. Type: **Startup Compuware License Manager**.

5. Click **Finish,** then click **OK**.

6. Use Windows Explorer to navigate to the **Startup** directory. For example, in Windows 95, go to: c:\Windows\Start Menu\Programs\Startup.

7. Right-click on the **Startup Compuware License Manager** entry and select **Properties** from the menu.

8. Click the **Shortcut** tab and select **Minimized** from the **Run** list.

9. Click **Apply**, then click **OK**.

10. Reboot the machine or click the shortcut icon for these changes to take effect.

Windows NT 3.51

1. Highlight the **Startup** icon.

2. Select **File>New>Program Item** and click **OK**.

3. In the Description fields, type: **Startup Compuware License Manager**.

4. In the Command line field, type:

   ```
   c:\Program Files\Compuware\License\lmgrd.exe -app -c
   c:\Program Files\Compuware\License\license.dat
   ```

   where c:\Program Files\Compuware\License is the directory where the LM is located and *license.dat* is the name of the license file.(Your license.dat file may reside in \cpwr\license.dat.).

5. Select the **Run Minimized** check box and click **OK**.

6. Reboot the machine or click the shortcut icon for these changes to take effect.

Configuring Each User Workstation

Each workstation on which the product will be run with the concurrent-user license must be configured to access the LM server. Complete the appropriate procedure on each workstation to set the LM_LICENSE_FILE environment variable.

Windows NT 4.x

1. From the **Start** menu, select **Settings>Control Panel>System>Environment**.

2. In the **Variable** field, type **LM_LICENSE_FILE**.

3. In the **Value** field, type **7166@hostname** where *hostname* is the host name of the LM server. This value must match that of the first parameter of the SERVER line in the license file on the LM server.

4. Click the **Set** button. Reboot the machine for these changes to take effect.

Windows 95, 98, or NT 3.51

1. Insert the *QA*Center CD in the CD-ROM drive. On the *QA*Center screen, click **Install QACenter Products**. On the Install *QA*Center Products screen, click **Run License Administration Utility**. The LAU opens.

2. From the **Tools** menu on the LAU main window, choose **Set License Location**.

3. Click the **Browse** button and navigate to the LM server. Click **Open** to add the file to the LM_LICENSE_FILE variable.

4. Click **OK**. Reboot the machine for these changes to take effect.

Windows 3.1x

1. Using a text editor, open the autoexec.bat file and add the following line (with no spaces). **Type the line exactly as you see it; this information is *case sensitive*.**

   ```
   set LM_LICENSE_FILE=7166@hostname
   ```

   where *hostname* is the host name of the LM server. This value must match that of the first parameter of the SERVER line in the license file on the LM server.

2. Reboot the machine for these changes to take effect.

Configuring the License Manager for Manual Shutdown

On occasion, you may need to shut down the LM manually. This section describes how to set up an entry to do this before exiting Windows.

Windows 95, 98, or NT 4.x

1. Select **Start>Settings>Taskbar**. On the **Start Menu Programs** tab, click the **Add** button. The Create Shortcut window is displayed.

2. In the **Command Line** box, type the path where the LM is located, followed by the command shown in the example below:

   ```
   c:\Program Files\Compuware\License\lmutil lmdown -c
   c:\Program Files\Compuware\License\license.dat
   ```

   where **c:**\Program Files\Compuware\License is the directory where the LM is located and ***license.dat*** is the name of your license file.(Your license.dat file may reside in \cpwr.)

3. Click **Next**. The Select Program Folder dialog box appears.

4. Create a folder named **Compuware License Manager**, place the shortcut in it, and click **Next**. The Select a Title for the Program dialog box appears.

5. In the Select a Title for the Program dialog box, type: **Shutdown Compuware License Manager**.

6. Click **Finish**, then click **OK**.

7. To stop the LM, select **Start>Programs>Compuware License Manager>Shutdown Compuware License Manager**.

Windows NT 3.51

1. Highlight the *QA*Center icon and select **File>New>Program Item**. Click **OK**.

2. In the Description field, type: **Shutdown Compuware License Manager**

   In the Command line field, type
   c:\Program Files\Compuware\License**\lmutil lmdown**
   where **c:**\Program Files\Compuware\License is the directory where the LM is located.(Your license.dat file may reside in \cpwr.)

3. Select the **Run Minimized** check box and click **OK**.

4.   Click on the new icon to shut down the LM Server.

Installing a Concurrent-User License on UNIX

Complete the following tasks to install a permanent concurrent-user license:

- Install or update the LM.
- Determine the host name and ID of the LM server.
- Obtain the permanent concurrent-user license.
- Enter the license information in the license file.
- Configure the LM for automatic startup.
- Configure each user workstation that will access the LM server.
- When necessary, perform manual shutdown of the LM.

Detailed instructions for performing these tasks are provided in this section.

Installing or Updating the License Manager

The machine on which a concurrent-user license is installed is called the LM server. It must always be available to workstations using Compuware products because it monitors product licensing. For more information, see "Selecting the Compuware License Manager Server" on page 9-8.

- If this is a first-time installation of the LM on this machine, go to "Installing the LM" on page 9-15.

- If a previous version of the LM is on this machine, you may need to install the current version. Go to "Updating the LM" on page 9-15.

Installing the LM

The LM files for the supported UNIX platforms are located in platform-specific subdirectories under /cpwr/cwlm on the *QA*Center CD-ROM.

1.   On the machine where you intend to run the LM, create a directory named */*cpwr/ license.

2.   Copy the contents of the appropriate /cpwr/cwlm subdirectory from the *QA*Center CD-ROM to the directory you created in Step 1.

Updating the LM

If the LM is already installed, you may not need to install it again because it can be used for multiple Compuware products. Before you re-install the LM, check its version number to determine if it is the latest version available to you. To determine the version that is running on the LM server:

1. Change to the directory on the LM server where the LM is located.

2. Enter: **./lmutil lmver lmgrd**. A message like the following displays the FLEXlm version number of the LM:

```
lmutil - Copyright (C) 1989-1997 Globetrotter Software, Inc.
FLEXlm Copyright 1988-1996, Globetrotter Software, Inc.
FLEXlm 5.12a (libmgr_s.a), Copyright (C) 1988, 1997 Globetrotter Software,Inc.
```

3. Insert the *QA*Center CD in the CD-ROM drive. Change to the CD-ROM drive and enter **lmutil lmver lmgrd** again.

4. Compare the version number returned from the server with that on the CD-ROM:

    • If the version number returned from the server is higher than the version on the CD-ROM (for example, if your LM version is 5.12 and that on the CD-ROM is 5.0), do not update the LM.

    • If the version number returned from the server is below that on the CD-ROM, you need to update your version of the LM.

5. To update the LM, copy the contents of the appropriate /cpwr/cwlm subdirectory from the CD-ROM to the directory where your current LM resides.

Determining the Host Name and ID

Once you install the LM, and before you can install the permanent license, you must supply Compuware with the host name and host ID of the LM server. To find these values, execute the following commands while signed onto the LM server:

1. Change to the directory in which the LM is located (for example, */cpwr/license).

2. To determine the host name, enter: **uname -n**. A message like the following is displayed: Host Name = fh5222dt

3. To determine the host ID, enter: **lmutil lmhostid**. A message like the following is displayed: The FLEXlm host ID of this machine is "00c04fd9ed02".

Obtaining License Information

After you determine the host name and ID, contact your Compuware Sales Representative to obtain the required permanent concurrent-user license information. Compuware will provide you with the personalized license information by e-mail, fax, or regular mail.

Entering License Information

After you receive the permanent license from Compuware, complete the following procedure on the LM server.

1. Locate the **license.dat** file, which is normally in the directory where the LM is located. For information, see "Installing or Updating the License Manager" on page 9-15.

    •   If the file does not exist, use a text editor to create a file named **license.dat** in the directory where the LM is located.

    •   If a license.dat file already exists for a Compuware product, use that file.

2. Open the license.dat file in a text editor.

3. If you received your license string via e-mail, paste your license string from the e-mail into the license file. If not, type it into the license file. Commented information (preceded with a #) is for your reference only; you do not need to include it in the file.

Caution

Enter the license information exactly as you received it. This information is *case sensitive*.

    •   **If you are entering the first license in the file**: Enter the license information you received, as in the following example:

```
SERVER ServerName 0020af9adb94 TCP:7166
DAEMON compuware ./compuwar
FEATURE QARun Compuware 4.600 12-jan-1999 10 6C74309CB84A9F07C5ED\
VENDOR_STRING=989898;0;PERM ck=12
```

    •   **If the license file is already used for a product**: Append only the lines beginning with FEATURE and ending with `ck=##`, where `##` is a numeric string, to the end of the license file. For File-AID/CS, also include the PACKAGE line.

4. Save the license file.

5. Start the LM. From the directory where the LM is located, enter:

    lmgrd -c ⁄cpwr/license/license.dat

6. To verify the installation of the LM, enter:

    lmutil lmstat -a -c ⁄cpwr/license/license.dat

    A list of product features from the FEATURE lines is displayed.

Configuring the License Manager for Automatic Startup

Because all license validation is done by the LM, it must be started and kept running in order to use Compuware products. Complete the appropriate procedure to automatically start the LM each time the LM server is started.

Sun Solaris

1. In /etc/rc3.d, create a file named **s95cwlm.server**

2. Add the following command to the file:

   `nohup lmgrd -c ⁄cpwr/license/license.dat >license.log &`

SunOS

Add the following command to /etc/rc.local:

`nohup lmgrd -c ⁄cpwr/license/license.dat >license.log &`

HP-UX

1. In /sbin/rc3.d, create a file named **s95cwlm.server**

2. Add the following command to the file:

   `nohup lmgrd -c ⁄cpwr/license/license.dat >license.log &`

AIX

1. Add the following command to /etc/inittab:

   `rclocal:2:wait:/etc/rc.local >/dev/console/2 &1&`

2. In /etc/rc.local, enter the following command on one line:

`nohup /etc/lmgrd -c ⁄cpwr/license/license.dat >license.log 2 >&1&`

Configuring Each User Workstation

Each workstation on which the *QA*Center product will run with the concurrent-user license must be configured to access the LM. Complete the appropriate procedure on each workstation to set the LM_LICENSE_FILE environment variable.

Caution

Do not perform this procedure on Windows workstations if both the LM and the product are installed on UNIX and users will simply run the product from Windows.

Windows NT 4.x

1. From the **Start** menu, select **Settings>Control Panel>System>Environment**.

2. In the **Variable** field, type **LM_LICENSE_FILE**.

3. In the **Value** field, type **7166@*hostname*** where *hostname* is the host name of the LM server. This value must match that of the first parameter of the SERVER line in the license file on the LM server (such as the ServerName value in Step 3 of "Entering License Information" on page 9-16).

4. Click the **Set** button. Reboot the machine for these changes to take effect.

Windows 95, 98, or NT 3.51

1. Insert the *QA*Center CD in the CD-ROM drive. On the *QA*Center screen, click **Install QACenter Products**. On the Install *QA*Center Products screen, click **Run License Administration Utility**. The LAU opens.

2. From the **Tools** menu on the LAU main window, choose **Set License Location**.

3. Click the **Browse** button and navigate to LM server. Click **Open** to add the file to the LM_LICENSE_FILE variable.

4. Click **OK**. Reboot the machine for these changes to take effect.

Windows 3.1x   **1.** Using a text editor, open the autoexec.bat file and add the following line (with no spaces). **Type the line exactly as you see it; this information is *case sensitive*.**

```
set LM_LICENSE_FILE=7166@hostname
```

where *hostname* is the host name of the LM server. This value must match that of the first parameter of the SERVER line in the license file on the LM server.

2. Reboot the machine for these changes to take effect.

UNIX   Set the LM_LICENSE FILE environment variable in each user profile file to either the path to the license.dat file or to a port on a host (such as 7166@hostname), as shown in either of these two examples:

```
setenv LM_LICENSE_FILE=/full path to license file/license.dat (csh)

-export LM_LICENSE_FILE=/full path to license file/license.dat (ksh)
```

Performing Manual Shutdown

On occasion, you may need to shut down the LM manually. Type the following command to shut down the LM:

```
/cpwr/license/lmutil lmdown
```

where /cpwr/license is the directory where the LM is located.

Installing a Concurrent-User License on Novell TCP/IP

Complete the following tasks to install a permanent concurrent-user license:

- Install or update the LM.
- Determine the host name and ID of the LM server.
- Obtain the permanent concurrent-user license.
- Enter the license information in the license file.
- Configure the LM for automatic startup.
- Configure each user workstation that will access the LM.
- When necessary, perform manual shutdown of the LM.

Detailed instructions for performing these tasks are provided in this section.

Installing or Updating the License Manager

The machine on which a concurrent license is installed is called the LM server. It must always be available to workstations using Compuware products because it monitors product licensing. For more information, see "Selecting the Compuware License Manager Server" on page 9-8.

- If this is a first-time installation of the LM on this machine, go to "Installing the LM" on page 9-20.

- If a previous version of the LM is on this machine, you may need to install the current version. Go to "Updating the LM" on page 9-20.

Installing the LM

Use the following procedure to complete a first-time installation of the LM:

1. On the Novell server where the LM will run, create a directory named \cpwr. This directory should be accessible from the Novell console after the server is booted.

2. Copy the following files from the \Cpwr\cwlm\Novell subdirectory on the *QA*Center CD-ROM to the \cpwr directory on the LM server:

   - compuwar.nlm
   - lmgr165c.dll
   - lmutil.exe
   - cwlmname.exe

Updating the LM

If the LM is already installed, you may not need to install it again because it can be used for multiple Compuware products. Before you re-install the LM, check its version number to determine if it is the latest version available to you. To determine the version that is running on the LM server:

1. Open a DOS window and change to the directory where the LM is located on the LM server.

2. At the DOS prompt, enter: **lmutil lmver lmgrd.exe**. A message like the following displays the FLEXlm version number of the LM:

```
lmutil - Copyright (C) 1989-1997 Globetrotter Software, Inc.
FLEXlm Copyright 1988-1996, Globetrotter Software, Inc.
FLEXlm 5.12a (libmgr_s.a), Copyright (C) 1988, 1997 Globetrotter Software,Inc.
```

3. Insert the *QA*Center CD in the CD-ROM drive. Change to the CD-ROM drive and enter **lmutil lmver lmgrd.exe** again.

4. Compare the version number returned from the server with that on the CD-ROM:

   - If the version number returned from the server is higher than the version on the CD-ROM (for example, if your LM version is 5.12 and that on the CD-ROM is 5.0), do not update the LM.

- If the version number returned from the server is below that on the CD-ROM, you need to update your version of the LM.

5. To update the LM, copy the contents of the \cpwr\cwlm\Novell subdirectory on the *QA*Center CD-ROM to the directory where the current LM resides.

Determining the Host Name and ID

Once you install the LM, and before you can install the permanent license, you must supply Compuware with the host name and host ID of the LM server. To find these values, execute the following commands from the LM server:

1. To determine the host name, enter the **name** command while the server is running.

2. To determine the host ID, enter the **config** command while the server is running. As *Note 1* in the following example shows, the host ID is the node address of the network adapter card. If the server has more than one network card, use the address of the first card as the host ID.

Ethernet Network Card Example:

```
IPX Internal network number:347469c2
Node address: 000000000001
   Frame type: VIRTUAL_LAN
   LAN protocol: IPX network 347469c2
3Com EtherLink III 3c5x9 Family
   Version 4.01b October 9, 1994
   Hardware setting: I/P ports 300h to 30f, Interrupt Ah
   Node address: 0020AF9ADB94                          Note 1
   Frame Type: ETHERNET_II
   Board name: 3C5X9_1_II
   Lan protocol: ARP
```

The TCP port_number must be set to 7166 for the LM. Also, the frame type of the server's adapter (such as ethernet or token ring) must be either compatible with the client workstations or the same for the entire network.

Obtaining License Information

After you determine the host name and ID, contact your Compuware Sales Representative to obtain the required permanent concurrent-user license information. You can also

e-mail the information to **license_mgt@compuware.com**. Compuware will provide you with the personalized license information by e-mail, fax, or regular mail.

Note	When requesting a license, inform your Compuware Sales Representative that your LM server is running on a Novell platform using TCP/IP.

Entering License Information

After you receive the permanent license from Compuware, complete the following procedure on the LM server.

1. Locate the **license.dat** file, which is normally in the directory where the LM is located. For information, see "Installing or Updating the License Manager" on page 9-20.

   - If the file does not exist, use a text editor such as Notepad to create a file named **license.dat** in the directory where the LM is located.

   - If a license.dat file already exists for a Compuware product, use that file.

2. Open the license.dat file in a text editor.

3. If you received your license string via e-mail, paste your license string from the e-mail into the license file. If not, type it into the license file. Commented information (preceded with a #) is for your reference only; you do not need to include it in the file.

Caution	Enter the license information exactly as you received it. This information is *case sensitive*.

   - **If you are entering the first license in the file**: Enter the license information you received, as shown in the following example:

```
SERVER NOV4_1SV 0020af9adb94 TCP:7166
DAEMON compuware compuwar
FEATURE QARun Compuware 4.600 12-jan-1999 10 6C74309CB84A9F07C5ED\
VENDOR_STRING=989898;0;PERM ck=12
```

   - **If you already use the license file for a product**: Append only the lines beginning with FEATURE and ending with ck=##, where ## is a numeric string, to the end of the license file. For File-AID/CS, also include the PACKAGE line.

4. Save the license file.

5. To start the LM, perform the procedure below for either the Novell server console or the Novell remote console.

- **From the Novell server console, type:**

```
load SYS(or vol name):\cpwr\license\compuwar.nlm -c SYS:\cpwr\license\license.dat
```
or
```
load a:\cpwr\license\compuwar.nlm -c a:\cpwr\license\license.dat
```

> where **a:**\cpwr**license** indicates the A drive on the server, and ***license.dat*** is the name of your license file. After your entry, the license feature and the LM are displayed on the console.

- **From the Novell remote console (Rconsole), type**:

```
load SYS(or vol name):\cpwr\license\compuwar.nlm -c SYS(or vol name):\cpwr\license\license.dat
```

> After your entry, the license feature and Compuware License Manager (license.dat) will be displayed on the console.

6. To verify the installation of the LM, enter: **modules**. Search the listing for the *compuwar.nlm* module.

Configuring the License Manager for Automatic Startup

Because all license validation is done by the LM, it must be started and kept running to use Compuware products. To automatically start the LM when the server is started, add the following command to the server's autoexec.ncf file:

```
load c:\cpwr\license\compuwar.nlm -c c:\cpwr\license\license.dat
```

where **c:**\cpwr**license** is the Novell server directory where the LM is located and ***license.dat*** is the name of your license file.

Configuring Each User Workstation

Each workstation running the *QA*Center product with a concurrent-user license must be configured to access the LM server.

> **Note**
> For each client workstation, you must properly install and configure the TCP/IP protocol software supplied by Microsoft. After the TCP/IP protocol is installed and configured, each workstation should be able to map to the Novell server's drive.

1. Locate the packed files tli_spx.dll and tli_win.dll in the \public\client\doswin directory of the Novell server. Copy these files to the \windows or \windows\system

directory. Unpack the files with the nwnpack.exe utility, which is in the same Novell directory. Compuware cannot provide these files, they must be supplied by Novell.

2. On each workstation, use the appropriate procedure to set the LM_LICENSE_FILE environment variable.

    Windows NT 4.x:

    a. Select **Control Panel>System>Environment**.

    b. In the **Variable** field, type `LM_LICENSE_FILE`.

    c. In the **Value** field, type `7166@hostname` where *hostname* is the host name of the LM server. This value must match that of the first parameter of the SERVER line in the license file on the LM server (such as the ServerName value in Step 3 of "Entering License Information" on page 9-22).

    d. Click the **Set** button. For best results, reboot the machine.

    e. **Optional**: If you are using IPX/SPX and need to change to the TCP/IP protocol, you may need to set the following environment variable:

        `FLEXLM_COMM_TRANSPORT=TCP`

        By default, the LM will use the TCP/IP protocol.

    Windows 3.1x, 95, 98, or NT 3.51:

    a. Using a text editor such as Notepad, open the autoexec.bat file.

    b. Add the following line with no spaces. **Type the line exactly as you see it; this information is** *case sensitive***.**

        `set LM_LICENSE_FILE=7166@hostname`

        where *hostname* is the host name of the LM server. This value must match that of the first parameter of the SERVER line in the license file on the LM server (such as the ServerName value in Step 3 of "Entering License Information" on page 9-22).

    c. Reboot the machine for these changes to take effect.

Shutting Down the License Manager

On occasion, you may need to manually shut down the LM. To do so, type the `unload compuwar.nlm` command from the Novell console:

Installing a Concurrent-User License on Novell IPX/SPX

Complete the following tasks to install a permanent concurrent-user license:

• Install or update the LM.

- Determine the host name and ID of the LM server.
- Obtain the permanent concurrent-user license.
- Enter the license information in the license file.
- Configure the LM for automatic startup.
- Configure each user workstation that will access the LM.
- When necessary, perform manual shutdown of the LM.

Detailed instructions for performing these tasks are provided in this section.

Installing or Updating the License Manager

The machine on which a concurrent license is installed is called the LM server. It must always be available to workstations using Compuware products because it monitors product licensing. For more information, see "Selecting the Compuware License Manager Server" on page 9-8.

- If this is a first-time installation of the LM on this machine, go to "Installing the LM" on page 9-25.

- If a previous version of the LM resides on this machine, you may need to install the current version. Go to "Updating the LM" on page 9-25.

Installing the LM

Use the following procedure to complete a first-time installation of the LM:

1. On the Novell server where the LM will run, create a directory named \cpwr. This directory should be accessible from the Novell console after the server is booted.

2. Copy the following files from the \Cpwr\cwlm\Novell subdirectory on the CD to the directory you created in Step 1:

   - compuwar.nlm
   - lmgr165c.dll
   - lmutil.exe
   - cwlmname.exe

3. In the \cpwr directory, use a text editor to create a file named **license.dat**.

Note

You must have version 5.00q or higher of spxs.nlm installed on the license server for the LM to function properly. This file must be supplied by Novell. You can find version 5.00q of spxs.nlm at www.novell.com. Apply it using the Novell Filer command.

Updating the LM

If the LM is already installed, you may not need to install it again because it can be used for multiple Compuware products. Before you re-install the LM, check its version number to determine if it is the latest version available to you. To determine the version that is running on the LM server:

1. Open a DOS window and change to the directory where the LM is located on the LM server.

2. At the DOS prompt, enter: **lmutil lmver lmgrd.exe**. A message like the following displays the FLEXlm version number of the LM:

```
lmutil - Copyright (C) 1989-1997 Globetrotter Software, Inc.
FLEXlm Copyright 1988-1996, Globetrotter Software, Inc.
FLEXlm 5.12a (libmgr_s.a), Copyright (C) 1988, 1997 Globetrotter Software,Inc.
```

3. Insert the *QA*Center CD in the CD-ROM drive. Change to the CD-ROM drive and enter **lmutil lmver lmgrd.exe** again.

4. Compare the version number returned from the server with that on the CD-ROM:

   - If the version number returned from the server is higher than the version on the CD-ROM (for example, if your LM version is 512 and that on the CD-ROM is 5.0), do not update the LM.

   - If the version number returned from the server is below that on the CD-ROM, you need to update your version of the LM.

5. To update the LM, copy the contents of the \cpwr\cwlm\Novell subdirectory on the *QA*Center CD-ROM to the directory where the current LM resides.

Determining the Host Name and ID

Once you install the LM, and before you can install the permanent license, you must supply Compuware with the host name, host ID, node_address, and the network_number of the Novell LM server.

1. To determine the host name, enter the **name** command while the server is running.

2. To determine the host ID, node_address, and network_number, enter the **config** command while the server is running. Notes 1, 2, and 3 in the following examples indicate the location of these values:

   - *Note 1*: The host ID is the node address of the adapter (such as ethernet or token ring). If the server has more than one network card, use the first card's address as the host ID.

   - *Note 2*: The node_address is the node address of the LM server. The node_address has a default setting of 000000000001. If the config command shows a node_address other than the default, use the value you see.

- *Note 3*: The network_number is the IPX internal network number.

Note

The adapter's frame type of the server must be either compatible with the client workstations or it must be the same in the entire network.
Socket_Number: Compuware uses 1234 as the default socket_number unless you provide a different number. Note that the socket_number of the LM server must be between 0001 and 9999 and must be unique to the server.

Ethernet network Card Example:

```
IPX Internal network number:347469c2
Node address: 000000000001
    Frame type: VIRTUAL_LAN
    LAN protocol: IPX network 347469c2
3Com EtherLink III 3c5x9 Family
    Version 4.01b October 9, 1994
    Hardware setting: I/P ports 300h to 30f, Interrupt Ah
    Node address: 0020AF9ADB94
    Frame Type: ETHERNET_802.2
    Board name: 3C5X9_1E82
    Lan protocol: IPX Network
```
Note 3
Note 2

Note 1

PCI LAN Network Card Example:

```
File server name: MY-Y2K_7TOWER
IPX internal network number: B00101176
    HP 10/100TX PCI LAN Adapter
    version 1.48 September 5, 1996
    Hardware setting: Slot 32, I/O port ECE0h to ECFFh, MEM
        FFFFH,
Interrupt Ah
    Node address: 0060B0577B88
    Frame type: ETHERNET_802.3
    Board name: ETH_BB1
    LAN protocol: IPX network C0010113
My_Y2K_7TOWER:
```
Note 3

Note 2 , *Note 1*

Token Ring Network Card Example:

```
IPX Internal network number: ACF04A00
Node address: 000000000001
    Frame type: VIRTUAL_LAN
    LAN protocol: IPX network ACF04A00
```
Note 3
Note 2

```
IBM PCI Token Ring Adapter Hardware Specific Module
   Version 1.13 January 5, 1998
   Hardware Setting: Slot 1, Memory FEAFFC00H to FEAFFCFFh
```
Node address: 000629179757   *Note 1*
```
   Frame type: TOKEN-RING
   Board name: IBMTRP0_1_TOK
   Lan protocol: IPX network 00000060
```

Obtaining License Information

After you determine the host name, host ID, node_address, and IPX/SPX internal network_number, contact your Compuware Sales Representative to obtain the required permanent concurrent-user license information. You can also e-mail the information to license_mgt@compuware.com. Compuware will provide you with the personalized license information by e-mail, fax, or regular mail.

> **Note**
>
> When requesting a license, inform your Compuware Sales Representative that your license server will be running on a Novell platform using IPX/SPX.

Entering License Information

After you receive the permanent license from Compuware, complete the following procedure on the LM server.

1. Locate the **license.dat** file, which is normally in the directory where the LM is located, or in the \cpwr directory on the client workstation (depending on where you created the license file). For information, see "Installing or Updating the License Manager" on page 9-20.

    •   If the file does not exist, use a text editor such as Notepad to create a file named **license.dat** in the directory where the LM is installed or in the \cpwr directory on the client workstation.

    •   If a license.dat file already exists for a Compuware product, use that file.

2. Open the license.dat file in a text editor.

3. If you received your license string via e-mail, paste your license string from the e-mail into the license file. If not, type it into the license file. Note that File-AID/CS also requires a PACKAGE statement. Commented information (preceded with a #) is for your reference only; you do not need to include it in the file.

> **Caution**
>
> Enter the license information exactly as you received it. This information is *case sensitive*.

- **If the first license is being entered in the file**: Enter the license information you received, as shown in the following example:

```
SERVER NOV4_1SV 0020af9adb94 SPX:1234@000000000001 347469c2
DAEMON compuware compuwar
FEATURE QARun Compuware 4.600 12-jan-1999 10 6C74309CB84A9F07C5ED\
VENDOR_STRING=989898;0;PERM ck=12
```

- **If a license file is already used for a product**: Append only the lines beginning with FEATURE and ending with ck=##, where ## is a numeric string, to the end of the license file. For File-AID/CS, also include the PACKAGE line.

4. Save the license file.

5. To start the LM, perform the procedure below for either the Novell server console or the Novell remote console.

- **From the Novell server console, type:**

```
load SYS(or vol name):\cpwr\license\compuwar.nlm -c SYS:\cpwr\license\license.dat
```
                or
```
load a:\cpwr\license\compuwar.nlm -c a:\cpwr\license\license.dat
```

where **a:**\cpwr**license** indicates the A drive on the server, and ***license.dat*** is the name of your license file. After your entry, the license feature and the LM are displayed on the console.

- **From the Novell remote console (Rconsole), type**:

```
load SYS(or vol name):\cpwr\license\compuwar.nlm -c SYS(or vol name):\cpwr\license\license.dat
```

After your entry, the license feature and Compuware License Manager (license.dat) will be displayed on the console.

6. To verify the installation of the LM, enter: **modules**. Search the listing for the *compuwar.nlm* module.

Configuring the License Manager for Automatic Startup

Because all license validation is done by the LM, it must be started and kept running in order to use the *QA*Center product. The LM must be started on the machine where it was installed. To automatically start the LM when the server is started, add the following command to the server's autoexec.ncf file:

```
load c:\cpwr\license\compuwar.nlm -c c:\cpwr\license\license.dat
```

where **c:**\cpwr**license** is the Novell server directory where compuwar.nlm is located and ***license.dat*** is the name of your license file.

Configuring Each User Workstation

Each workstation on which you want to run the *QA*Center product with the concurrent-user license must be configured to access the LM.

Windows NT 4.x

1. Configure the IPX/SPX protocol on each client workstation using the appropriate procedure:

   • Install the IPX/SPX protocol using Microsoft's Novell NetWare client.
   • Install Novell Client 4.11a, which you can download from www.novell.com.

2. Check that the following files are in the \windows\system or \system32 directory. If Novell Client V4.11a is installed, these files should have been automatically copied to this directory. If they are not, copy them from the \public\client\doswin directory on the Novell CD-ROM or the Novell server. Unpack them with the nwunpack.exe utility, which is in the same Novell directory.

   • nwcalls.dll (\System)
   • nwipxspx.dll (\System32)
   • nwlocale.dll (\System)
   • nwnet.dll (\System)
   • tli_spx.dll (\System)
   • tli_win.dll (\System)

3. From the **Start** menu, select **Control Panel>System>Environment**.

4. In the **Variable** field, type **LM_LICENSE_FILE**.

5. In the **Value** field, type:

   c:\cpwr**\license***license.dat*

   where ***c:***\cpwr**\license** is the directory where your license file is located and *license.dat* is the name of your license file. This value should be the mapped location on the server, but it can be a local file with the same information.

6. Click the **Apply** button.

7. In the **Variable** field, type **FLEXLM_COMM_TRANSPORT**.

8. In the **Value** field, type **SPX**.

9. Click the **Apply** button.

10. Reboot the machine.

Windows 95, 98, or NT 3.51

1. Configure the IPX/SPX protocol on each client workstation using the appropriate procedure:

   • Install the IPX/SPX protocol using Microsoft's Novell NetWare Client and the IPX/SPX-compatible protocol.
   • Install Novell Client V2.5, which you can download from www.novell.com.

2. Check that the following files are in the windows\system directory. If Novell Client V2.5 or above is installed, these files should have been automatically copied to this directory. If they are not, copy them from the \public\client\doswin directory on the Novell CD-ROM or the Novell server. Unpack them with the nwunpack.exe utility, which is in the same Novell directory.

- nwipxspx.dll
- nwcalls.dll
- tli_spx.dll
- tli_win.dll
- nwlocale.dll
- nwnet.dll

3. Using a text editor, open the autoexec.bat file and add the following two lines. **Type the lines exactly as you see then; this information is *case sensitive*.**

   `set LM_LICENSE_FILE=c:\cpwr\license\`*`license.dat`*

   `set FLEXLM_COMM_TRANSPORT=SPX`

   where **c:**\cpwr**license** is the directory where your license file is located and *`license.dat`* is the name of your license file. This should be the mapped location on the server, but it can be a local file with the same information.

4. Reboot the machine.

Windows 3.1x

1. Install and configure the IPX/SPX protocol software supplied by Novell.

2. Using a text editor, open the autoexec.bat file and add the following two lines. **Type the lines exactly as you see them; this information is *case sensitive*.**

   `set LM_LICENSE_FILE=c:\cpwr\license\`*`license.dat`*

   `set FLEXLM_COMM_TRANSPORT=SPX`

   where **c:**\cpwr**license** is the directory where your license file is located and *`license.dat`* is the name of your license file. This value can be the mapped location on the server, or optionally, the local file with the same information.

3. Reboot the machine.

Shutting Down the License Manager Manually

On occasion, you may need to manually shut down the LM. To do so, type the **`unload compuwar.nlm`** command from the Novell console.

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