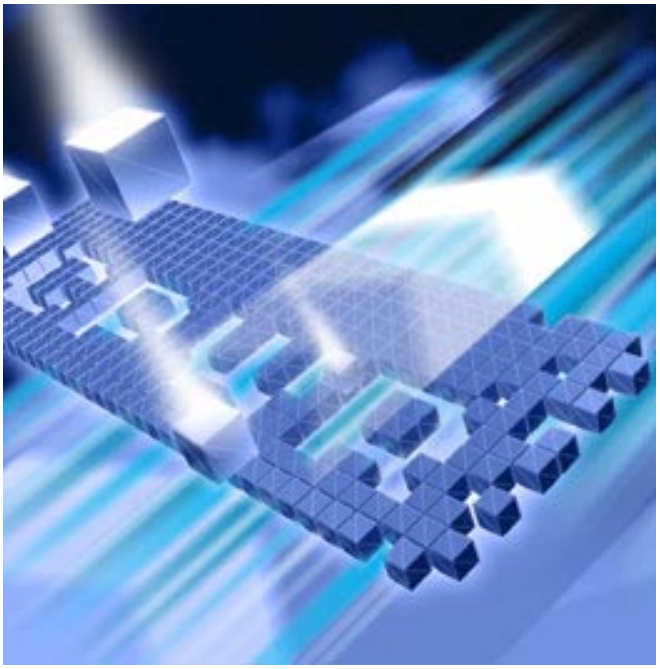

QALoad

Installation and Configuration Guide

Release 05.07

Compuware

Technical support is available from our Customer Support Hotline or via our FrontLine Support Web site.

Customer Support Hotline:
1-800-538-7822

FrontLine Support Web Site:
http://frontline.compuware.com

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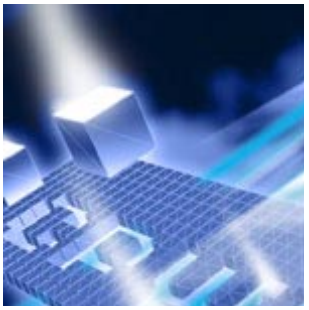
US Patent Nos.: Not Applicable.

Doc. CWQLIX
June 27, 2008

Table of Contents



Introduction

Who Should Read This Guide 5
Related Publications 5
World Wide Web Information 6
Getting Help 7

Chapter 1

Getting Started

Overview of *QA*Load 9
Installation Types 9
Before Installation 10

Chapter 2

Installing *QA*Load

Planning Your Installation 13
Integration and Monitoring Requirements 15
Integrated Compuware Product Support 15
- Vantage Integration Support 15
- *QA*Load Concurrent Conductor Licensing 17

System Requirements 18
- General Windows Installation Requirements 18
- Additional Requirements by Component 18
- Middleware-Specific Requirements 19
- *QA*Load UNIX Player Requirements 23

Installing *QA*Load 24
UNIX Player Installation 27
- Installing Via Tar File 28

Installing Via Package 29

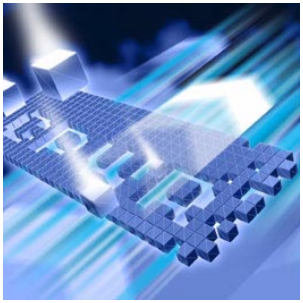
Chapter 3

Maintaining the Installation

Accessing Maintenance Mode 37
Modifying an Installation 38
Repairing an Installation 38
Removing a Product 39

Index

Introduction



The *QALoad Installation and Configuration Guide* provides information and procedures to install and maintain *QA*Load.

Who Should Read This Guide

This guide is intended for administrators who are installing and configuring *QA*Center products; it 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 are familiar 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

The *QA*Load installation documentation set is comprised of the following:

- The *QALoad Installation and Configuration Guide*, which includes system requirements and instructions for installing *QA*Load.
- The *Distributed License Management Licensing Guide*, which includes instructions for licensing your *QA*Center product.

All of these books are provided in PDF format only. You can access the online versions of the *QALoad Installation and Configuration Guide* and the *Distributed License Management Licensing Guide* from the media browser (see the instructions that follow) or from Compuware's FrontLine customer support Web site at http://frontline.compuware.com.

Viewing and Printing Online Books

To access these online books:

1. Insert the installation media into the CD-ROM drive. If the CD browser does not automatically start, navigate to the CD's root directory and run `setup.exe`.
2. Click **Read the Installation Guide**.
3. The document opens in Acrobat Reader. (If necessary, Acrobat Reader can be installed from the installation media by clicking **Install Adobe Reader**.)

Because PDF is based on PostScript, a PostScript printer is the most reliable way to print 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 http://www.adobe.com for troubleshooting information.

World Wide Web Information

To access Compuware Corporation's site on the World Wide Web, point your browser to 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 the FrontLine support Web site. 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. To access FrontLine, follow these steps:

1. Open a web browser and go to: http://frontline.compuware.com. The Welcome to FrontLine page appears.
2. On the right side of the page, enter your login ID and password and click **Login**.

Note: If you are a first-time visitor, click **Register** to receive your free password to access FrontLine. After you complete the registration form, your login ID and password will be e-mailed to you and your account will be activated.

3. From the drop-down list in the center of the page, select a product and click **Go**. You will see the product's FrontLine home page, where you can access documentation, technical information, fixes, and other support items.

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

Customer Support

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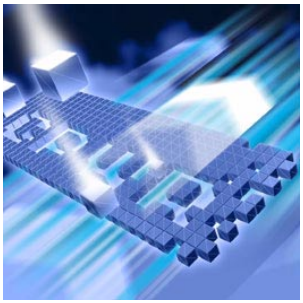
http://frontline.compuware.com

Chapter 1
Getting Started



- Overview of QALoad
- Installation Types
- Before Installation

Overview of *QA*Load

*QA*Load helps organizations conduct realistic, in-depth, and repeatable performance testing on applications throughout the enterprise. With a powerful combination of load testing, infrastructure monitoring, and results analysis tools, *QA*Load helps organizations find and resolve performance problems quickly.

*QA*Load can stress your system by simulating thousands of users simultaneously performing different operations. It creates and runs test scripts that can simulate application transactions on the system without involving end users or their equipment.

In addition to *QA*Load, the *QA*Load CD includes Adobe Acrobat Reader, Microsoft Internet Explorer, Microsoft Virtual Machine, and Java 2 SDK version 1.5 installation programs. To install one or more of these products from the CD, click **Install**.

Installation Types

Before you begin, determine the type of installation you need to perform:

Initial Installation: An initial installation is the first-time installation of a product on your computer. See the installation chapter for each product for instructions.

Modify: A modification of the product installation occurs when you add or remove one or more of a product's components, but not all of them. See the maintenance chapter for instructions.

Repair: A repair installation may be necessary due to a corruption of a program or the inadvertent deletion of the product. See the maintenance chapter for instructions.

Remove: A remove or uninstallation removes all the components of a product. See the maintenance chapter for instructions.

Upgrade: Normally, an upgrade to a new release of a product does not require that you uninstall the current release first. If there are special concerns with regard to upgrading a *QA*Load product, they are explained in the product's installation chapter.

Before Installation

Before installing *QA*Load, you should carefully review the following information.

System Requirements

Review the system requirements to ensure that you meet the prerequisites for the successful installation and operation of the product. System requirements are listed in the Release Notes as well as in each product's installation chapter in this book.

Release Notes

Review the Release Notes for information about new features, technical notes, and known issues that may enhance or impact your product's performance. Release Notes contain recent changes that may not be included in your *QA*Load product documentation.

Release Notes can be viewed from the installation media or on FrontLine, Compuware's product support web site. The Release Notes on FrontLine are periodically updated as new information becomes available.

To access the Release Notes from the installation media, follow these steps:

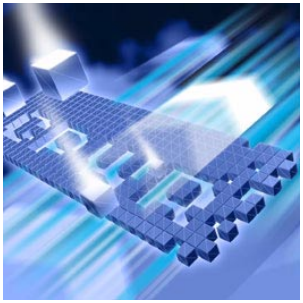
1. Insert the installation media into the CD-ROM drive. If the CD browser does not start automatically, navigate to the CD's root directory and run `setup.exe`.
2. Click **Read the Release Notes**. The Release Notes open in your default web browser.
3. Read the Release Notes online, or print the document.
4. After reading and/or printing the Release Notes, close the document to return to the CD browser.

To access the Release Notes on FrontLine, follow these steps:

1. Open a web browser and go to: http://frontline.compuware.com. The Welcome to FrontLine page appears.
2. On the right side of the page, enter your login ID and password and click **Login**.

   Note: If you are a first-time visitor, click **Register** to receive your free password to access FrontLine. After you complete the registration form, your login ID and password will be e-mailed to you and your account will be activated.
3. From the drop-down list in the center of the page, select a product and click **Go**. You will see the product's FrontLine home page.
4. On the left side of the product's homepage, select the **Documentation** link. You will see the product's documentation page, which lists all documentation releases.
5. Click the current release number to go to the product's documentation page for that release. This includes links to Release Notes and other documentation types.
6. Click the **HTML** or **PDF** icons to view documents.

Chapter 2
Installing *QA*Load



- Planning Your Installation
- Integration and Monitoring Requirements
- Integrated Compuware Product Support
- System Requirements
- Installing QALoad
- UNIX Player Installation

Planning Your Installation

*QA*Load consists of separate, installable components for script recording and editing, load testing and test execution management, virtual user generation, results analysis, server monitoring, and network traffic generation. In addition, there are components related to specific middleware types. Not all components are required in every testing situation. The following table describes what each component does, and why and where it should be installed. Please refer to this table to determine which components are appropriate for your load testing requirements. For supported operating systems and minimum system requirements for each component, see "System Requirements" on page 18.

After reviewing this table, carefully follow the instructions in "Installing QALoad" on page 24 to ensure that you install only those components that are appropriate for your testing needs.

Table 2-1. *QA*Load Component Descriptions

Component	Purpose	Where to Install
*QA*Load Script Development Workbench	Contains the elements necessary for recording, converting, compiling, and modifying test scripts.	Typically installed on the same workstation (Windows) as the *QA*Load Conductor and *QA*Load Analyze components and on the workstation that has the appropriate application you're recording transactions from.
*QA*Load Conductor	Controls the *QA*Load Players and manages tests. It is the center for application playback. In addition, the *QA*Load Conductor is where you check out licenses for virtual users for your load tests. For further information, see "QALoad Concurrent Conductor Licensing" on page 17.	Must be installed on the same workstation as *QA*Load Analyze for reporting purposes. Most users will install *QA*Load Conductor on the same workstation as the *QA*Load Script Development Workbench.
*QA*Load Player	Emulates users by running test scripts that mimic user transactions. *QA*Load Players are available for a number of operating environments. The *QA*Load Player is the most performance-sensitive component of *QA*Load, as it is responsible for creating hundreds or thousands of concurrent virtual users from the same workstation.	If you intend to run large volume load tests, Compuware recommends that you install *QA*Load Player on powerful and dedicated workstations. No other resource-intensive processes should be installed or running at the same time the *QA*Load Player is in use for load testing.

Table 2-1. *QA*Load Component Descriptions

Component	Purpose	Where to Install
*QA*Load Analyze	The key component for the analysis of statistics measured during the load test. Lets you correlate and report on load testing performance and server utilization statistics gathered during the test.	Typically installed on the same Windows workstation as the *QA*Load Script Development Workbench.
NetLoad Server	The NetLoad UDP and TCP servers are required only when using the TCP and UDP options within NetLoad. They are not required for any other middleware options and need only be installed if using NetLoad.	There are no special considerations for where to install the NetLoad servers.
SSL-128	EasyScript for Secure WWW must be installed in order to test SSL protected E-business applications. EasyScript for WWW must also be installed.	You must install DLM with a valid SSL License key before installing SSL.
ApplicationVantage Agent	See "Vantage Integration Support" on page 15.	
ServerVantage Agent	See "Vantage Integration Support" on page 15.	

Integration and Monitoring Requirements

Once you install *QA*Load, you can configure the monitoring function. For information on requirements for integration and remote monitoring, refer to the *QA*Load *Conductor Online Help* for the ***Integration and Monitoring Requirements*** topic.

Integrated Compuware Product Support

Vantage Integration Support

The following table shows the Compuware Vantage products supported by *QA*Load. For release support information, refer to the Release Notes for

*QA*Load. To identify the release of a product, select **Help>About** from the product's menu bar.

Table 2-2. Compuware Vantage Product Integration

Compuware Vantage Product/ Release	Purpose	Where to Install
ApplicationVantage Agent 10.0 SP2 and 10.1	Captures network traffic information from a remote machine. The captured data can be used to profile the effect of the network on an application's performance.	Must be installed on the same Windows machine as the *QA*Load Player. **Note**: If ApplicationVantage is installed on the *QA*Load Conductor machine, or if the machine's operating system is Microsoft Windows XP, you must install the ApplicationVantage Remote Agent. The ApplicationVantage Agent version must match the version of the Vantage Console installed. For requirements for installing on Microsoft Windows Vista, see "Installing QALoad" on page 24.
ServerVantage Agent • SVI Monitoring, 10.0 and 10.1. • Remote Monitoring, 10.1 SP1.5	Used for Performance Monitoring of servers and applications for JVM, OAS, SAP, WebLogic, WebSphere, WebSphere MQ, and WMI environments.	Must be installed on the same machine as the *QA*Load Conductor. The agent should be installed on a non-production machine that does not currently have a ServerVantage agent installed. For specific requirements for each environment, see "Installing QALoad" on page 24.
ClientVantage Agent (*QA*Load is packaged with the current version of ClientVantage at time of release.)	Manages end-user application performance and availability. Problems can be diagnosed by powerful fault detection and analysis capabilities as well as resource monitoring.	For more information on installing ClientVantage, refer to the documentation for ClientVantage.

Table 2-2. Compuware Vantage Product Integration

Compuware Vantage Product/ Release	Purpose	Where to Install
Vantage Analyzer 10.1 SP1	Used to drill into specific problem transactions to determine bottlenecks in production applications and determine what activities are most time consuming on the server machine.	Must be installed on the same machine as *QA*Load Analyze.

QALoad Concurrent Conductor Licensing

Required: To use this feature, you must install the License Manager for Windows or UNIX on a license server. Refer to the *Distributed License Management Licensing Guide* guide for instructions on installing the License Manager. For information on checking out virtual user licenses in general, refer to the *QA*Load *Conductor Online Help* ***Checking out virtual user licenses*** topic.

*QA*Load's concurrent Conductor licensing, also referred to as Bulk Checkout, allows a number of Conductors to share a pool of virtual users. The number of concurrent Conductors is dependent on the license purchased. To determine how many Conductors and virtual users you are licensed for, view your license using the *Compuware License Administration Utility* (LAU). From the **Start** menu, choose All **Programs>Compuware>Distributed License Management**. The number of licensed Conductors is the value associated with the `QA`Load_`Conductor` string located in the **Feature** area in the **Version** column. The number of licensed virtual users is the value associated with the *QA*Load string.

Tip: *You can also view the number of licensed virtual users by choosing* ***Tools>Licensing*** *from the* ***QA****Load* ***Conductor*** *menu. On the License Information dialog box, in the* ***Current License Information*** *area, you will see the* ***Total number of Virtual User licenses****.*

If your license allows a single Conductor only, then the Bulk Checkout feature of *QA*Load does not apply to you. For more information on how to use the LAU, see the help in the *License Administration Utility*.

System Requirements

This section describes the general requirements for running a complete installation of *QA*Load, as well as requirements for each individual *QA*Load component that may be installed separately, and requirements for the individual middlewares. Review each section to determine which requirements apply to your configuration.

General Windows Installation Requirements

*QA*Load has the following minimum system requirements:

- Mid-level Pentium 4 PC with 1GB of RAM. RAM requirements may vary by middleware.
- 500 MB available disk space.
- Microsoft Windows 2000 Service Pack 4, Windows XP Professional Service Pack 2, Windows Vista Service Pack1*, or Windows Server 2003.

*Tip: *Refer to the Technical Notes section of the QALoad Release Notes for more information about using Windows Vista and IE 7.0.*

Note:

- ◇ Chinese, Japanese, and Korean operating systems only support the WWW middleware.
- ◇ User Locale affects how some programs format and display numbers, currencies, dates, and time. *QA*Load only supports native operating systems locales. Switching you User Locale to something other than that of the native OS may result in improper functioning of *QA*Load components.

- Microsoft Internet Explorer 6 Service Pack 1 (SP1) or 7.0*. (See "WWW Requirements" on page 22 for information about support for other browsers.)
- Adobe Acrobat or Acrobat Reader (provided on the installation media) to view the online books in PDF format.

Administrative Rights

Installing *QA*Load requires full administrative rights.

Additional Requirements by Component

The following sections detail the system requirements that differ by *QA*Load component. Requirements also vary by middleware; see "Middleware-Specific Requirements" on page 19.

*QA*Load Script Development Workbench

- Microsoft Visual Studio .NET 2003 (7.1), or Visual Studio .NET 2005 (8.0) for script compilation and script validation.

Note: Refer to the Technical Notes section of the *QA*Load Release Notes for compiler information for the SAP and Citrix middlewares.

- Microsoft .NET Framework version 2.0 Service Pack 1.

*QA*Load Conductor Requirements

- TCP/IP communications.
- Microsoft .NET Framework version 2.0 Service Pack 1.

*QA*Load Analyze Requirements

- MAPI32-compliant mail program such as Microsoft Outlook (required for use of timing file mailing utility).
- In order to use the Automated Reports utility, Microsoft Word must be installed on the machine.
- The dynamic link library `cdo.dll` must be installed on the machine to use the send utility. CDO is an optional messaging component of Microsoft Outlook. When you view the options for Office or Outlook setup, CDO is listed under the options for Outlook.

Note: If you are using Microsoft Office 2007, you must download cdo.dll from the Microsoft website.

*QA*Load Windows Player Requirements

- Java 2 Runtime Environment 1.4, 1.5, or 1.6 (version 1.5 is provided on the installation media) for running Java scripts.
- Mid-level Pentium 4 PC with 1GB of RAM.
- TCP/IP communications.

Middleware-Specific Requirements

In addition, your Windows system may need to meet specific requirements to support the middleware you are testing. For middleware-specific requirements, see the following sections:

- "ODBC Requirements" on page 20
- "Uniface Requirements" on page 20
- "Citrix Requirements" on page 20
- ".NET Requirements" on page 21
- "TestPartner Requirements" on page 21

- "SAP Requirements" on page 21
- "Oracle Forms Server Requirements" on page 21
- "Java Requirements" on page 22
- "WWW Requirements" on page 22
- "Streaming Media Requirements" on page 22

ODBC Requirements

*QA*Load Script Development Workbench

*QA*Load supports load testing of ODBC environments when the following requirements are met:

*QA*Load Script Development Workbench

- ODBC 2.0, 2.5, 3.0, or 3.5 client installation.
- Visual C++ or ODBC SDK. Libraries from Visual C++, if installed, are used by default unless ODBC SDK libraries are specified.

*QA*Load Player

- ODBC 2.0, 2.5, 3.0, or 3.5 client installation.
- Supports *QA*Load Windows Player only.

Uniface Requirements

*QA*Load supports load testing under Uniface when the following requirements are met:

*QA*Load Script Development Workbench

- Visual Studio .NET 2003 (7.1)
- Development environment of Uniface V8.2.xx, V8.3.xx, or V8.4.xx, complete with the 3GL interface.
- On the Windows XP operating system, *QA*Load EasyScript for Uniface requires Service Pack s603 or later. On Windows 2000, Uniface Service Pack s601 or later is required.
- Not supported on Vista.

*QA*Load Player

- Development environment of Uniface V8.2.xx, V8.3.xx, or V8.4.xx, complete with the 3GL interface.
- Supports *QA*Load Windows Player only.

Citrix Requirements

*QA*Load supports load testing under Citrix when the following requirements are met:

*QA*Load Script Development Workbench

- Citrix ICA client installation version 9.x or 10.
- MetaFrame Presentation Server.

*QA*Load Player

- Citrix ICA client installation version 9.x or 10.
- Supports *QA*Load Windows Player only.

Web Interface

- Citrix ICA client installation version 9.x or 10.
- Citrix Web Interface 4.2, 4.5.1*, or 4.6*

Note: When running Citrix ICA client 10 against the Web Interface 4.5.1 or 4.6, the server should be set to have a preference for embedded ICA files. It may be necessary to change WebInterface.conf on the server from "LaunchClients=ICA-Local,ICA-Embedded" to LaunchClients=ICA-Embedded,ICA-Local".

.NET Requirements

*QA*Load supports load testing under .NET when the following requirements are met:

*QA*Load Script Development Workbench

- Visual Studio 2005 with Microsoft .NET Framework version 2.0 Service Pack 1.

*QA*Load Player

- Microsoft .NET Framework version 2.0 Service Pack 1.
- Supports *QA*Load Windows Player only.

TestPartner Requirements

*QA*Load Script Development Workbench

- *QA*Load supports load testing under TestPartner 6.1.

*QA*Load Player

- Supports *QA*Load Windows Player only.

SAP Requirements

*QA*Load supports load testing under SAP when the following requirements are met:

*QA*Load Script Development Workbench

- Appropriate SAP client installation version 6.20, 6.40, or 7.10.
- Appropriate SAP server patches installed:
  - SAP 4.6C server: patch level 32 or later
  - SAP 4.6D server: patch level 21 or later
  - SAP 6.10 server: patch level 17 or later

*QA*Load Player

- Appropriate SAP client installation version 6.20, 6.40, or 7.10 for playback.
- Supports *QA*Load Windows Player only.

Oracle Forms Server Requirements

*QA*Load supports load testing under Oracle Forms Server when the following requirements are met:

*QA*Load Script Development Workbench

- Oracle Forms versions 6*i*, 9*i*, and 10*g*, and Oracle E-Business Suite 11i and 12 running in servlet mode for both SSL and non-SSL.
- Oracle Forms versions 6.0, 6*i*, and Oracle E-Business Suite 11i and 12 running in socket mode.

*QA*Load Player

- Java 2 Runtime Environment 1.5 (provided on the installation media).

Note: Compuware recommends you use the Java HotSpot Client VM.

- Supports *QA*Load Windows Player only.

Java Requirements

*QA*Load supports load testing of J2EE components when the following requirements are met:

*QA*Load Script Development Workbench

- Java Development Kit 1.4, 1.5, or 1.6 required for developing Java scripts.

*QA*Load Player

- Java 2 Runtime Environment 1.4, 1.5, or 1.6 (version 1.5 is provided on the installation media) to run Java scripts.

WWW Requirements

*QA*Load supports load testing of WWW environments when the following requirements are met:

*QA*Load Script Development Workbench

- For "Automatically Configure and Start Browser" recording: Internet Explorer 6 SP1 or 7.0.
- For "User Configured and Started Browser or Web Application" recording: You can use any HTTP 1.0 or 1.1 application for which a proxy can be set. Use this option to record a non-Internet Explorer browser such as Mozilla, Firefox, or Opera.

*QA*Load Player

- NTLM playback is not supported on UNIX.

Streaming Media Requirements

*QA*Load supports Streaming Media under WWW when the following requirements are met:

*QA*Load Script Development Workbench

- For "Automatically Configure and Start Browser" recording: Internet Explorer 6 SP1 or 7.0.
- For "User Configured and Started Browser or Web Application" recording: You can use any HTTP application for which a proxy can be set. Use this option to record a non-Internet Explorer browser such as Mozilla, Firefox, or Opera.

QALoad Player

- RealOne Player Version 10.x or Windows Media Player 9.00.xx.

QALoad UNIX Player Requirements

The QALoad Player and associated utilities are supported on AIX, Linux and Solaris. Compilers that are 32-bit compatible are required. The following sections contain the requirements for each operating system.

Required: Compuware recommends that you 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.

UNIX Player Requirements for AIX

- AIX 5L Version 5.2 or 5.3.
- 100 MB minimum available disk space.
- ANSI C compiler for compiling scripts. Compuware requires IBM's VisualAge C and C++ compilers, version 6.0 (patched to level 6.0.0.14). Compuware also supports the GNU GCC & G++ compilers version 3.4.4.
- Java 2 Runtime Environment 1.4, 1.5, or 1.6 for running Java scripts. (Version 1.5 is included on the installation media)
- TCP/IP communications.
- Appropriate client application environment (see "UNIX Player Middleware Requirements" on page 24).

UNIX Player Requirements for Linux

- Red Hat Enterprise Linux AS, Release 3 or 4.
- 100 MB minimum available disk space.
- Compuware requires the Linux system-provided GNU GCC & G++ compilers version 3.4.5.
- Java 2 Runtime Environment 1.4, 1.5, or 1.6 for running Java scripts. (Version 1.5 is included on the installation media)
- TCP/IP communications.
- Appropriate client application environment (see "UNIX Player Middleware Requirements" on page 24).

Required: For Release 3 only, the system should be updated to the packages indicated in the Red Hat Advisory: RHBA-2005:661-11. Additional packages required to resolve dependencies also should be applied.

UNIX Player Requirements for Solaris

- Solaris 9 or 10.
- 100 MB minimum available disk space.
- ANSI C compiler for compiling scripts and Sun Studio 11. Compuware also supports GNU GCC & G++ compilers version 3.4.4.

- Java 2 Runtime Environment 1.4, 1.5, or 1.6 for running Java scripts. (Version 1.5 is included on the installation media)
- TCP/IP communications.
- Appropriate client application environment (see "UNIX Player Middleware Requirements" on page 24).

UNIX Player Middleware Requirements

The UNIX system running the *QA*Load UNIX Player may need to meet specific requirements based upon which middleware you are testing.

Installing *QA*Load

This section explains the installation process for *QA*Load. Please review "System Requirements" on page 18 to ensure that *QA*Load installs and operates properly on your workstation.

Before proceeding with the *QA*Load installation, Compuware recommends that you review the *QA*Load Release Notes, which includes information about new features, technical notes, and known issues. In addition, it documents recent changes that may not be included in your *QA*Load documentation. Please review this information carefully; the Release Notes document is updated as new product information becomes available. To review the Release Notes prior to installation, see "Before Installation" in the "Getting Started" chapter.

Required: Compuware recommends that you exit all non-essential Windows programs before running this setup program. Some Windows programs may interfere with the installation process.

If a previous version of *QA*Load is installed on your computer, or if you have any Beta version installed, Compuware recommends that you back up your data and uninstall *QA*Load before installing the new version. Failure to do so may cause problems.

To perform the installation of *QA*Load, follow these steps:

1. Log on as a user with administrative permissions.
2. Insert the installation media in the CD-ROM drive. The installation media browser should automatically appear. If it does not, navigate to the root directory and run the `setup.exe` file.
3. Click the **Products** tab.
4. Click **Install *QA*Load**. The Welcome dialog box appears.

5 Read the welcome screen and click **Next**. The License Agreement dialog box appears.

6 Read the license agreement and click **Yes**. The Customer Information dialog box appears.

7 Type your name and company in the **User Name** and **Company Name** fields. Click **Next**. The Choose Destination Folder dialog box appears.

8 Select a location for the *QA*Load installation.

- By default, *QA*Load installs in the folder `x:\Program Files\Compuware\QALoad`, where `x` is the drive where Windows resides on your computer.
- To specify a different path, click **Browse** and select an existing folder or type the path name in the **Path** field. Click **OK**.

9 Click **Next**. The Custom Setup dialog box appears.

10 Highlight a component to view a brief description. Select the components you want to install. See Table 2-1 on page 14 for details on each component.

- **Script Development Workbench:** Contains all of the elements necessary for recording, converting, compiling, and modifying test scripts. Select the EasyScript component(s) for which you are licensed. Compuware recommends that you do not select components for which you are not licensed because you cannot create test scripts with those components.
- **Conductor:** Controls the *QA*Load Players and manages tests. The *QA*Load Conductor and Analyze must be installed on the same workstation for reporting purposes. *QA*Load Analyze is automatically selected for you, as well.
- **Players:** Emulates users by running test scripts that mimic user transactions. Each supported platform's Player type can be selected separately for installation. The *QA*Load Player for running Java scripts is automatically installed with the Windows and UNIX Players.
- **Analyze:** Allows you to view timing information from the test in table or graph format.
- **NetLoad Server:** The NetLoad UDP and TCP server files are application files that enable NetLoad to perform UDP and TCP testing.

- **SSL-128:** Easyscript for WWW must be installed in order to test SSL protected E-business applications. EasyScript for WWW must also be installed.

Required: You must install the SSL License before installing SSL.

- **ApplicationVantage Agent:** This option is not available if the ApplicationVantage Agent is already installed. Allows you to capture trace data on Player machines. ApplicationVantage uses this captured data to analyze application performance problems. **Note**: The ApplicationVantage Agent version must match the version of the Vantage Console installed.
- **ServerVantage Agent:** Must be installed on the same machine as the *QA***Load** Conductor. Used for Performance Monitoring of servers and applications for JVM, OAS, SAP, WebLogic, WebSphere, WebSphere MQ, and WMI.

Make your selection(s) and click **Next** to display the Start Copying Files dialog box with the current settings you selected.

11 Review the summary of the settings that you specified.

12 Click **Next** to begin copying the program files. The Setup Status dialog box displays the progress of the installation.

Note: If you selected ApplicationVantage Agent and your operating system is Windows Vista, a Windows security dialog box appears during file transfer: "Would you like to install this device software?" Click **Install**.

13 After the installation completes, the Setup Complete dialog box appears. Depending on the circumstances, you may have the following options:

- **Display Release Notes:** Choose to review the information in the ReleaseNotesQL.htm file. This file contains information about new features, technical notes, and known issues that may enhance or have an impact on *QA*Load's performance. Release Notes contain recent changes that may not be included in your *QA*Load product documentation.
- **Register for FrontLine:** Choose to review the information on FrontLine technical support site. FrontLine provides fast access to critical information, such as documentation, frequently asked questions, and product fixes. The first time you access FrontLine, you are required to register and obtain a password.
- **Restart Your Computer:** You may be prompted to restart your computer. If you are prompted to restart your computer, you may choose to restart it now (recommended) or to restart it later. If

you are migrating from a previous version of *QA*Load, you must restart before using *QA*Load.

14 Click **Finish** to complete the installation of *QA*Load.

Where To Go Next

- The trial license that is supplied with your *QA*Center product enables you to install the product and run it for a specific time period without first installing a license. During this trial period, you are informed of how much evaluation time remains.

  At any time during the evaluation period, you can obtain and install a permanent license. When the evaluation period expires, you **must** obtain a license and install it before you can successfully run this product. See the *Distributed License Management Licensing Guide* for instructions on installing a license. To access this online book:

  a Insert the installation media into the CD-ROM drive. If the CD browser does not automatically start, navigate to the CD's root directory and run `setup.exe`.

  b Select the **License** tab, then click **Read the installation guide**.

- If Adobe Acrobat or Acrobat Reader is not installed on your computer, click **Install Adobe Reader** from the installation media. Adobe Acrobat or Acrobat Reader is required to view online books in PDF format.

- To install a *QA*Load Windows Player on an additional workstation, follow the instructions on the previous pages. However, on the Select Components dialog box, select to install ***only*** the *QA*Load Windows Player and deselect all other components.

- To install a UNIX Player, see "UNIX Player Installation" on page 27.

- If you are migrating from a previous release of *QA*Load, you must re-compile your existing scripts in the Script Development Workbench to use them in this release.

- If you are ready to begin using *QA*Load, go to the Getting Started section of the *QA*Load online help.

- For information about modifying, repairing, or removing your *QA*Load installation, see Chapter 3, "Maintaining the Installation" on page 37.

UNIX Player Installation

This section explains the procedure for installing a Player on a UNIX system. The necessary UNIX Player software is distributed with your

*QA*Load Windows installation. You can choose to install using a tar file or using the vendor-specific package installation mechanism.

Installing Via Tar File

Load the Player Files

To load the appropriate files for *QA*Load runtime playback 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. FTP, in binary mode, the tar file and installation script file to the desired installation directory, <*installDir*>, on the UNIX system. The installation directory must not contain a previous version of *QA*Load.
2. Log on to the UNIX system.
3. On the UNIX system, change directories to <*installDir*>.
4. Type `chmod 755 QALoadInstall`
5. Run the installation file by typing `./QALoadInstall` and follow the prompts.

   Add the *QA*Load library directory, <*installDir*>*/lib*, to the library path environment variable on your UNIX system. The name of this variable is specific to the operating system. The following table identifies the name of the library path environment variable for the UNIX operating systems that are supported by *QA*Load:

Table 2-3. Library Path Environment Variables

Operating System	Library Path Name
AIX	LIBPATH
Linux	LD_LIBRARY_PATH
Solaris	LD_LIBRARY_PATH

6. If you are replaying EasyScript for Java scripts, make the following changes to the environment on the UNIX system:
   - **AIX:** Add the path of `libjvm.a` to the **LIBPATH** environment variable.

- **Linux**: Add the paths of `libjvm.so` and `libhpi.so` to the **LD_LIBRARY_PATH** environment variable. You must also add the fully-qualified path of `libhpi.so` to the **LD_PRELOAD** environment variable; this entry must end with `libhpi.so`.
- **Solaris**: Add the path of `libjvm.so` to the **LD_LIBRARY_PATH** environment variable.

7 If you purchased the *EasyScript for Secure WWW* module to test SSL (Secure Sockets Layer) or HTTPS calls that your browser/server may make, the required files are available only from a Windows system where the *QA*Load SSL module is installed.

8 After installing the SSL module on a Windows system, follow these steps:

a Copy the '`InstallSSL`' and '`SSL-<osName>.tar.Z`' files from the `<windowsInstallDir>\Unix\<platform>\SSL` directory on the Windows system to the `<installDir>` directory on the Unix system.

b In the `<installDir>` directory on the Unix system, make the installation script executable by typing: `chmod +x InstallSSL`.

c In the `<installDir>` directory on the Unix system, execute the installation script by typing: `InstallSSL`.

9 If you are using the GNU compiler on Solaris or AIX, add the following line to the end of the **<installdir>/qalplayer.conf** file:
`CompilerType GNU`

10 Start the Player Agent by typing ./`PlayerAgent`.

Required: If you restart the UNIX system, you must start the Player Agent manually by typing ./`PlayerAgent` in the installation directory.

Installing Via Package

Installing a UNIX Player on AIX

Load the Player Files

To load the appropriate package file for *QA*Load runtime playback onto AIX, you must either mount the installation media onto the AIX system or FTP the package files from the installation media to the UNIX system. Once the package is available on the AIX system, use "`smit`" to install the software. The package is located in the `<CD drive>/qaload setup/qaload/aix` directory of your *QA*Load installation media.

Command Line Installation

To install the UNIX Player on AIX, perform the following steps:

1. If using FTP:
   - Use binary mode to copy the package file `QACPE.bff.Z` to the AIX system.
   - Log on as `root`.

   If using the installation media:
   - Log on as `root`.
   - Mount the installation media onto the AIX system.
   - Copy the `QACPE.bff.Z` package file onto the system.
2. Change the directory (cd) to where the package file was placed. Note that "`root`" must have write permission in this directory.
3. Uncompress the package file by running the following command:

   ```
   uncompress QACPE.bff.Z
   ```

   This will expand the compressed package file and create the installable package `QACPE.bff`.
4. From the command prompt, type the following command:

   ```
   smit
   ```
5. From the System Management screen, select **Software Installation and Maintenance** and press **Enter** on the keyboard.
6. Select **Install and Update Software** and press **Enter** on the keyboard.
7. Select **Install Software** and press **Enter** on the keyboard.
8. Type or select the directory where the `QACPE.bff` file can be found and press **Enter** on the keyboard.
9. Press **Enter** twice. When the installation is complete, the COMMAND STATUS screen appears.
10. Locate the **Result** column and verify that the package installation was successful.
11. Add `/opt/QALoad/lib` to the **LIBPATH** environment variable.
12. If you are replaying *EasyScript for Java* scripts, add the path of `libjvm.a` to the **LIBPATH** environment variable.
13. If you purchased the *EasyScript for Secure WWW* module, to test SSL (Secure Sockets Layer) or HTTPS calls that your browser/server may make, the required file is available only from a Windows system where the *QA*Load SSL module is installed.
14. After installing the SSL module on a Windows system, follow these steps:

a. Copy the 'QACPE-SSL.bff.Z' file from the <windowsinstallDir/Unix/AIX/SSL directory on the Windows system to the <installDir> directory on the AIX system.

b. In the <installDir> directory on the AIX system, uncompress the package file by running the following command:

```
uncompress QACPE-SSL.bff.Z
```

This expands the compressed package file and creates the installable package QACPE-SSL.bff.

c. From the command prompt, type the following command:

```
smit
```

d. From the System Management screen, select **Software Installation and Maintenance** and press **Enter** on the keyboard.

e. Select **Install and Update Software** and press **Enter** on the keyboard.

f. Select **Install Software** and press **Enter** on the keyboard.

g. Type or select the directory where the QACPE-SSL.bff file can be found and press **Enter** on the keyboard.

h. Press **Enter** twice. When the installation is complete, the COMMAND STATUS screen appears.

i. Locate the **Result** column and verify that the package installation was successful.

15. If you are using the GNU compiler, add the following line to the end of the <installdir>/qalplayer.conf file:

```
CompilerType GNU
```

16. Change directory (cd) to /opt/QALoad.

17. Start the Player Agent by typing ./PlayerAgent.

Installing a UNIX Player on Linux

Load the Player Files

To load the appropriate files for *QA*Load runtime playback onto Linux, you must either mount the installation media onto the Linux system or FTP the package file(s) from the installation media to the UNIX system. Once the package is available on the Linux system, use "rpm" to install the software. The package is located in the <CD drive>/qaload setup/qaload/linux directory of the *QA*Load installation media.

Command Line Installation

To install the UNIX Player on Linux, perform the following steps:

1. If using FTP:
   - Use binary mode to copy the package file QACPE.rpm to the Linux system.

– Log on as `root`.

If using the installation media:

– Log on as `root`.

– Mount the installation media onto the Linux system.

– Copy the `QACPE.rpm` package file onto the system.

2 Change directory (cd) to where you copied the package file. Note that "`root`" must have write permissions in this directory.

3 To install the *QA*Load Player to the default directory of `/opt/QALoad`, execute the following command:

```
rpm -Uvh QACPE.rpm
```

4 Add `/opt/QALoad/lib` to your **LD_LIBRARY_PATH** environment variable.

5 If you are replaying EasyScript for Java scripts, add the paths of `libjvm.so` and `libhpi.so` to the **LD_LIBRARY_PATH** environment variable. You must also add the fully-qualified path of `libhpi.so` to the **LD_PRELOAD** environment variable; this entry must end with `libhpi.so`.

6 If you purchased the EasyScript for Secure WWW module to test SSL (Secure Sockets Layer) or HTTPS calls that your browser/server may make, the required file is available only from a Windows system where the *QA*Load SSL module is installed.

After installing the SSL module on a Windows system, follow these steps:

a Copy the '`QACPE-SSL.rpm`' file from the `<windowsInstallDir>/Unix/Linux/SSL` directory on the Windows system to the `<installDir>` directory on the Linux system.

b To install the *QA*Load Player to the default directory of `/opt/QALoad`, execute the following command:

```
rpm -Uvh QACPE-SSL.rpm
```

Required: The encryption package must be installed on the same directory as the QACPE package.

7 Change directory (`cd`) to the directory where *QA*Load is installed.

8 Start the Player Agent by typing ./`PlayerAgent`.

Installing a UNIX Player on Solaris

Load the Player Files

To load the appropriate package file for *QA*Load runtime playback onto Solaris, you must either mount the installation media onto the Solaris system or FTP the package file(s) from the installation media to the UNIX system. Once available on the Solaris system, you can use "`pkgadd`" to install the software. The package is located in the `<CD drive>/qaload setup/qaload/solaris` directory of your *QA*Load installation media.

Note: To install the vendor-specific package using the graphical installation, refer to the *Solaris System Administrator's Guide 3rd Edition*.

Command Line Installation

To install the UNIX Player on Solaris, perform the following steps:

1. If using FTP:
   - Use binary mode to copy the package file `QACPE.tar.Z` to the Solaris system.
   - Log on as `root`.

   If using the installation media:
   - Log on as `root`.
   - Mount the installation media onto the Solaris system.
   - Copy the `QACPE.tar.Z` package file onto the system.
2. Change directory (cd) to the directory where you copied the package file. Note that "`root`" must have write permissions in this directory.
3. Uncompress the package file by running the following command:

   ```
   uncompress QACPE.tar.Z
   ```

   This expands the compressed package file and creates the package tar file `QACPE.tar`.
4. Extract the contents of the tar file by running the following command:

   ```
   tar -xvf QACPE.tar
   ```

   This creates the directory structure required for installation.
5. Execute the following command:

   ```
   pkgadd -d
   ```

   This displays the package to install and prompts you to select the package.
6. Select the *QA*Center Performance Edition package and press **Enter** on your keyboard. You are prompted to **Enter path to package base directory**. This is the path where the package is installed. For example, typing `/opt` installs the package to `/opt/QALoad`.
7. Type the base directory to begin installation.

8 When the installation is complete, the package to install selection displays again. Select **q** to quit.

9 Add `/<base directory>/QALoad/` to your **LD_LIBRARY_PATH** environment variable.

10 If you are replaying EasyScript for Java scripts, add the path of `libjvm.so` to the **LD_LIBRARY_PATH** environment variable.

11 If you purchased the EasyScript for Secure WWW module to test SSL (Secure Sockets Layer) or HTTPS calls that your browser/server may make, the required file is available only from a Windows system where the *QA*Load SSL module is installed.

12 After installing the SSL module on a Windows system, follow these steps:

   a Copy the '`QACPE-SSL.tar.Z`' file from the `<windowsInstallDir>/Unix/Solaris/SSL` directory on the Windows system to the Solaris system.

   b Change directory (cd) to the directory where you copied the encryption package file. Note that "root" must have write permissions in this directory.

   c Extract the contents of the tar file by running the following command:

   ```
   tar -xvf QACPE-SSL.tar
   ```

   This creates the directory structure required for installation.

   d Execute the following command:

   ```
   pkgadd -d .
   ```

   This displays the QACPE-SSL package to be installed and prompts you to select the package.

   e Select the *QA*Center Performance Edition SSL Libraries package and press **Enter** on your keyboard. You are prompted to `Enter path to package base directory`. This is the path where the package is installed. For example, typing `/opt` installs the package to `/opt/QALoad`.

   f To begin installation, type the name of the base directory where the main *QA*Center Performance Edition is installed.

   g When the installation is complete, the package to install selection displays again. Select `q` to quit.

13 Change directory (`cd`) to the installation directory, which is either `/opt/QALoad` or the `<base directory>` you selected.

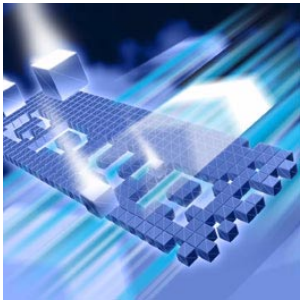
14 If you are using the GNU compiler, add the following line to the end of the **<installdir>/qalplayer.conf** file:
`CompilerType GNU`

15 Start the Player Agent by typing `./PlayerAgent`

Where to Go Next

To begin using *QA*Load, refer to the Getting Started section of the *QA*Load online help.

Chapter 3
Maintaining the Installation



- Accessing Maintenance Mode
- Modifying an Installation
- Repairing an Installation
- Removing a Product

Accessing Maintenance Mode

There are two methods for accessing a *QA*Center product's maintenance mode: from the installation media or from the Windows Control Panel.

Required: Compuware recommends that you exit all non-essential Windows programs before running this setup program. Some Windows programs may interfere with the installation process.

Accessing Maintenance Mode from the Windows Control Panel

1. Click the Windows **Start** button and choose **Settings>Control Panel**. The Control Panel window appears.
2. Choose the **Add/Remove Programs** icon. The Add/Remove Programs dialog box appears. Select the *QA*Center product to maintain and click **Change/Remove**.

You are presented with the three maintenance mode options: modify, repair, and remove. For more information about these options, see the appropriate section in this chapter.

Accessing Maintenance Mode from the Installation Media

1. In the CD-ROM drive, insert the installation media containing the same version of the product that you have installed. The installation

media browser should automatically appear. If it does not, navigate to the root directory and run the `setup.exe` file.

2 Click the **Products** tab, then click **Install** *QA*Load.

You are presented with three maintenance mode options: modify, repair, and remove.

Modifying an Installation

For products with optional components, you may want to add or remove a component.

Rather than uninstall and re-install the product, you can modify your installation.

Modifying Products With Optional Components

1 Access maintenance mode using one of the two methods described at the beginning of this chapter.

2 Select the **Modify** option. Click **Next**. The Select Components dialog box appears allowing you to add or remove components.

3 Click **Next**. Setup will add or remove the appropriate components.

4 After modifying, you may be prompted to restart your computer. If you are prompted to restart your computer, you may choose to restart it now (recommended) or to restart it later.

5 Click **Finish** to complete the maintenance.

Repairing an Installation

There may be times when you will need to repair a damaged *QA*Center product installation. This could be due to an inadvertent deletion or corruption of the program. To repair your *QA*Center product, follow these steps:

1 Access maintenance mode using one of the two methods described in "Accessing Maintenance Mode" at the beginning of this chapter.

2 Select the **Repair** option. Click **Next**. Setup will repair the specified *QA*Center product.

3 After repairing, you may be prompted to restart your computer. If you are prompted to restart your computer, you may choose to restart it now (recommended) or to restart it later.

4 Click **Finish** to complete the maintenance.

Removing a Product

If you want to remove a *QA*Center product from a PC, follow these steps:

1 Access maintenance mode using one of two methods described at the beginning of this chapter.

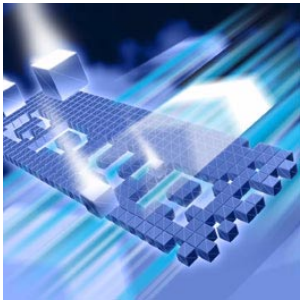
2 Select the **Remove** option. Click **Next**. The Confirm File Deletion dialog box appears.

3 Click **OK**. Setup will remove the specified *QA*Center product from your PC. If your product uses a database repository, it will not be deleted.

4 After uninstalling, you may be prompted to restart your computer. If you are prompted to restart your computer, you may choose to restart it now (recommended) or to restart it later.

5 Click **Finish** to complete the maintenance.

Index



Symbols

.NET 21

A

access methods
    maintenance 37
AIX 28, 30, 31
    UNIX Player Requirements 23
Analyze
    system requirements 19
Application Vantage
    Remote Agent 16

B

before installing 10
    new version 24
    QALoad 13
beta version
    uninstalling (QALoad) 24

C

Citrix
    requirements 20
ClientVantage agent 16
component
    requirements 18
components
    QALoad 14
Compuware technical support
    FrontLine Web site 6
Compuware World Wide Web sites 6
concurrent Conductor licensing 17
customer support 7

D

description
    QALoad 9

F

FrontLine technical support
    Web site 6

G

getting started 9

H

help 7
    FrontLine Web site 6

I

installation
    planning 13
installation pre-requisites 10
installation types 9
installing
    modify product components 38
    package (UNIX) 29
    process (QALoad) 24
    QACenter products prerequisites 9
    QALoad 24, 27
    repairing a product installation 38
    tar file (UNIX) 28
    types of installations 9
    UNIX Player 27
introduction 5

J

Java
    requirements 22

L

licensing
    QALoad 17
Linux
    UNIX Player requirements 23
load testing
    requirements 13

M

Maintaining the Installation 37
maintenance
    access methods 37
    modify 38
    remove 39
    repair 38
middleware
    UNIX Player requirements 24
modify
    maintenance 38

N

new version
    before installing 24

O

ODBC
    requirements 20
operating requirements
    QALoad 18
Oracle Forms Server
    requirements 21

P

package (UNIX)
    installing 29
planning
    installation 13
    QALoad installation 13
planning your installation
    QALoad 13
pre-installation 10
prerequisites for QACenter product installation 9

process
installing QALoad 24

Q

QALoad
Analyze, requirements 19
before installing 13
components 14
concurrent Conductor licensing 17
Conductor
licensing 17
requirements 19
FrontLine Web site 6
help 6
installing 24, 27
operating requirements 18
planning your installation 13
Script Development Workbench, requirements 19
system requirements 18
technical support 6
upgrading 24
Windows Player
requirements 19
QALoad product
description 9

R

RealOne Player 22
Remote Agent
Application Vantage 16
remove
maintenance 39
repair
maintenance 38
requirements
by component 18
Citrix 20
Java 22
load testing 13
ODBC 20
Oracle Forms Server 21
SAP 21
Uniface 20
UNIX Player 23
WWW 22

S

SAP
requirements 21
ServerVantage Agent 16
Solaris
UNIX Player requirements 23
SSL 15, 22, 26, 29, 31, 32, 34
Streaming Media 22
RealOne Player 22
Windows Media Player 22
support
FrontLine Web site 6
system requirements
AIX on UNIX 23
complete Windows 18
Linux on UNIX 23
QALoad 18
QALoad Analyze 19
QALoad Conductor 19
Script Development Workbench 19
Solaris on UNIX 23

T

tar file (UNIX)
installing 28
technical support 7
FrontLine Web site 6

TestPartner 21
types of installation 9

U

Uniface
    requirements 20
uninstalling
    beta version (QALoad) 24
UNIX Player
    installing 27
    middleware requirements 24
    requirements 23
UNIX Player requirements
    AIX 23
    Linux 23
    Solaris 23
upgrading
    QALoad 24

V

Vantage 15
Vantage Agent 16

W

Windows
    system requirements 18
Windows Media Player 22
World Wide Web, Compuware sites 6
WWW
    requirements 22