



Distributed License Management

License Installation Guide

Release 3.4



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

Technical Support Hotline:
1-800-538-7822

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

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Doc. CWDLIX3E
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Preface



Summary of Changes

This section summarizes the enhancements to Distributed License Management (DLM) Release 3.4.

Release 3.4 Changes

This release offers the following enhancements:

- ◆ Enhanced installation process.
- ◆ Simplified License Administration Utility (LAU) display and external Borrow Proxy Server (BPS) and Borrow License Client (BLC) components.
- ◆ New concurrent license model that restricts the number of users that can use a licensed feature and the user file is automatically updated.
- ◆ Ability to update the options file from within the LAU.
- ◆ Enhanced Remote License Administration Utility (RLAU).
- ◆ Renamed license file from `license.dat` to `license.lic`.
- ◆ License borrowing ability to package together feature lines.

Chapter 1

Introduction



About This Guide

The *Distributed License Management License Installation Guide* provides information and procedures to:

- ◆ Obtain a license.
- ◆ Install concurrent (multi-user) or node-locked (single-user) licenses.
- ◆ Configure the license environment.
- ◆ Troubleshoot license installation errors.

Who Should Read This Guide

The *Distributed License Management License Installation Guide* is intended for administrators who are installing Compuware products. You can find reference and usage information in the online help of Distributed License Management's (DLM) licensing components. See "[License Components](#)" on page 13 for more information on DLM's licensing components.

Compuware assumes that you are familiar with basic Microsoft Windows and Web browser navigation. If this is not the case, familiarize yourself with the documentation for Microsoft Windows and Internet Explorer or Netscape Navigator before reading this guide.

Conventions

The following conventions are used to draw your attention to special information:

- Boldface** Information that you type, choices you select from a dialog box or menu, and keys that you press. Boldface is also used to emphasize important information.
- italic* Placeholders for items you must supply. For instance, when the guide says *x:*, *x* is the letter of the drive that exists on your computer.

Caution: Situations to be avoided.

Required: Required tasks or situations.

Note: Important information.

Tip: Helpful hints or alternative methods.

Online Help

In addition, online help for Distributed License Management is provided. It includes help on using the following DLM licensing components:

- ◆ License Administration Utility
- ◆ Borrow Proxy Server
- ◆ Borrow License Client
- ◆ Remote License Administration Utility

There are several ways to access the online help from within a licensing component:

Tip: If the Table of Contents does not display in the help window, click the Show link above the help topic to view it.

- ◆ From the **Help** menu, choose **Index** to open help for the licensing component being used.
- ◆ Click **Help** to open context-sensitive help specific to that window or component.
- ◆ Click ? to open help for the licensing component being used.

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 our FrontLine support Web site at <http://frontline.compuware.com>. FrontLine provides fast access to critical information about your Compuware 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 and release number (version) of the Compuware product you are using in addition to the name and release number of the DLM component. Access this information by choosing **About** from the product's **Help** menu. The name and release number are also displayed on the covers of the product and DLM 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 stand-alone or network installation
 - ◇ 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 DLM or 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.



Distributed License Management **Technical Support**

Compuware Corporation
One Campus Martius
Detroit, MI 48226-5099

1-800-538-7822

Chapter 2

Overview of Licensing



Introducing Licensing

Compuware's software products are protected from unauthorized usage via a standard licensing mechanism. Compuware's Distributed License Management (DLM) software components validate that an appropriate license is available and facilitate the license management and administration needs for your Compuware products.

The licenses are provided in the form of a text file named `license.lic`. These files can be installed on individual end-user desktops for temporary or node-locked licenses, or can be installed on a central License Manager server for centralized administration of licenses.

When a central License Manager is used, individual end-user (client) machines or servers running Compuware products must connect to the License Manager to obtain their license. To do this, use the License Administration Utility (LAU) on each target machine or use a UNIX environment variable to establish the host name and port number of the server machine running the License Manager.

Licensing your Compuware product depends on several factors:

- ◆ The type of license file you received from Compuware.
- ◆ The number of users specified in your license file.
- ◆ The use of the License Manager or not.

License Components

This document provides all of the necessary information to install and configure the license components required to run your Compuware

product. Compuware's licensing software consists of the following key components:

- ◆ **License Administration Utility (LAU)** – A Windows-based administration tool that can display all Compuware product license information available on both the client and server environments. The LAU is also used for license configuration. On systems where a License Manager is installed, the user-definable attributes of a License Manager can be changed.
- ◆ **License Manager (LM or LMGRD)** – An application (part of the LAU) that manages and services requests for the license(s) of your Compuware product(s). The License Manager can be installed on Windows and UNIX platforms. In many cases, it is recommended that you collocate the License Manager with the server-based components of one of the Compuware products you are installing.
- ◆ **License File (license.lic)** – A data file that contains information about the license you have obtained for one or more of your Compuware products and the features of those products. To review the contents of your license file, open `license.lic` with Notepad, Vi, or another text editor. Commented lines start with a # (number sign). All other lines are license file directives.
- ◆ **Borrow Proxy Server** – An application that runs alongside the License Manager and enables license borrowing activities.
- ◆ **Borrow License Client** – A Windows-based utility allowing an end-user on a desktop or laptop to borrow licenses from the network.
- ◆ **Remote License Administration Utility** – A Web-based tool that allows an administrator to perform simple license server administration within a browser window.

Note: Some Compuware products do not support all of the product components listed above.

License Types

Some Compuware products allow a time-limited trial license automatically without requiring installation of a license file. Other products require a license file even for a trial. If you start your Compuware product without a license, it either informs you that the license is missing or indicates that an automatic time-limited trial has started. Each time you start a product on an automatic time-limited trial, you may be asked if you want to install a permanent license or to continue the trial. Before

the trial runs out, you should acquire a permanent license from Compuware. See [“Request a License from Compuware”](#) on page 21.

Compuware offers several types of licenses. These licenses types are described below.

Note: Some products do not support all license types.

Permanent

A permanent license gives you access to the Compuware product under the terms of your contract with Compuware.

Temporary

A temporary license has a fixed expiration date from the time it is installed on your system. You must request this license from Compuware’s Sales Team.

Trial or Demo

A trial license is automatically installed when you install some Compuware products. When this is provided, it allows you to run the product for a specific time period (14–45 days from the day you install the product) and is locked to a specific system. Each time you start your Compuware product, a message appears informing you of the time left before the trial license expires. With a trial or demo license, you have the ability to review the product before deciding to purchase it.

License Models

Compuware offers two license models: node-locked and concurrent. Each of these model types is different, however, user duplication is an option that can be specified for both license models and their respective types.

User duplication allows the user to run an unlimited number of instances of an application as long as it is the same user on the same machine. The net usage in this case is always one for the individual user regardless of the number of instances running.

Node-Locked

A node-locked license is a license that is tied to a particular machine via a unique identifier (generally the NIC MAC Address, but optionally a hard disk signature). There are two types of node-locked licenses: trial (demo) and permanent.

For node-locked licenses, the use of the License Manager is not required, but can be used if you want a central place to store all of your licenses. A node-locked license is denoted by the HOSTID keyword found in the license file. For more information on installing a node-locked license, see [“License Manager is Not Required \(Node-Locked\)”](#) on page 19.

Concurrent

A concurrent (floating) license is server-based and requires the use of a License Manager. This license allows you to share the use of a product with more than one user. There are several types of concurrent license models: borrow-enabled, options file, redundant, and dynamic update of the user file.

A concurrent license is denoted by the SERVER and DAEMON keywords in the license file. It allows you to use a specific number of licenses without assigning them to a particular workstation. When all available licenses are checked out, no additional users can run the product until a license is checked back in. For more information on installing a concurrent license, see [“License Manager is Required \(Concurrent\)”](#) on page 18.

Borrow-Enabled

Borrow-enabled is a type of concurrent license model that allows a user to borrow a feature or product up to a specified amount of days. The user checks out a feature and indicates how long to borrow it without exceeding the 365-day limit.

Each checkout is exclusive to each user, meaning multiple users could use the same machine, but have access only to the features checked out by their user ID. Users can check in the feature at any time within the borrow time frame specified. If this is not done, once the time expires the user is no longer able to use that feature and it goes back into the server for other users to borrow.

A disadvantage to using this type of concurrent model is that if a machine with a borrowed license on it becomes disabled or lost, the borrowed license remains checked out until the time limit has expired. A good rule of practice is to keep the checkout duration to a minimum.

Options File

The options file is a type of concurrent license model that allows the license administrator to control user access to specific options or features. Administrators can grant or deny access to specified users or groups of users.

Redundant

A redundant server license is a type of concurrent license model that provides limited protection against license server failure. It disperses the responsibility of managing the license files over a predetermined amount of servers. To read more about how redundant servers work, see “[Redundant License Servers](#)” on page 20.

Dynamic Update of the User File

The dynamic update of the user file is a type of concurrent license model that restricts the number of users that can use a licensed feature to a pre-defined number. It is a first-come, first-served license model. After the pre-defined users have used a feature, only those same users can continue to use the feature.

As users continue to use the feature, the License Manager automatically adds their user names to a file located in the start-up directory of the vendor daemon. This user file is named after the feature that has been designated with the capability. For example, when a user attempts to use feature appF that user name is added to a file called appF in the start-up directory.

The file or files created by this automatic update of the user file are ASCII files. These text files can be edited using a text editor of your choice. They are formatted as simple lists of user names and are case-sensitive.

Once the specified limit of users is reached, additional users requesting the feature are denied. The system administrator can then open the text-based user file and remove a user in order to create space for additional users requesting the feature.

Caution: The dynamic update of the user file type of license model cannot be used in conjunction with an options file license model.

License Environment

It is often the case that multiple license files (or License Managers) are defined in a user's license environment. When a request is made to check out a license for a Compuware product, all environment paths in the Registry are scanned until a valid feature is found.

For information on configuring the license environment, see:

- ◆ For Windows, “[License Configuration](#)” on page 43.
- ◆ For UNIX, “[License Environment Variable for UNIX Clients](#)” on page 37.

Before you attempt to run a particular product, be sure that one of the paths (environments) you have defined contains the license file with a FEATURE line for the product you want to run. Also, if there are old or obsolete paths in your environment setting, you should delete them to improve product response time. Only currently operating servers should be specified in the license environment setting.

Determine if You Need the License Manager

The first step in the licensing process is to determine whether it is necessary to install and run the License Manager. The License Manager (or license server) is a long running process serving multiple client machines, so most often you install it on one central server machine for your entire organization.

The License Manager can serve all of Compuware’s product lines—you do not need multiple license servers per product unless you are running redundant servers (see “[Redundant License Servers](#)” on page 20). Typically, you install the License Administration Utility (LAU) on administrators’ desktops and use it to configure the License Manager.

If you have a trial or node-locked license, then you do not need to install the License Manager. However, the License Manager can be used with node-locked licenses for central administration of all of your licenses.

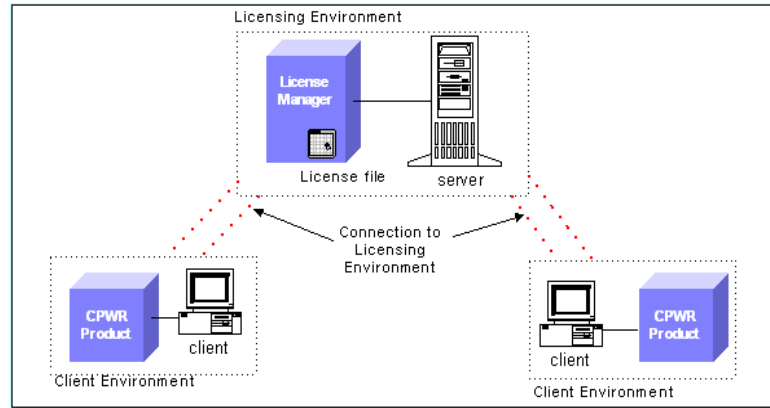
License Manager is Required (Concurrent)

A license file containing the SERVER and DAEMON lines is considered to be concurrent or floating and requires use of the License Manager. A concurrent license allows you to run a Compuware product on more than one client so that multiple users can access the product. This means that you purchase a specific number of licenses without assigning these licenses to particular clients or having to obtain their unique node identifiers.

The Compuware License Manager keeps track of licenses as they are checked out and checked in by users. Licenses are checked out by users on a first-come, first-served basis when they access the product. After all available licenses are issued, no additional users can run the product

until another user exits and a license is checked in. Your license determines how many users can access the product at one time.

Figure 2-1. Typical License Configuration for a Concurrent License



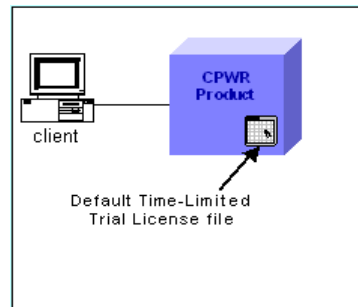
The License Manager must be running on a computer or server that is always available to all clients needing access to the product.

- ◆ For Windows, see [Chapter 3, “License Installation and Configuration for Windows”](#).
- ◆ For UNIX, see [Chapter 4, “License Installation and Configuration for UNIX”](#).

License Manager is Not Required (Node-Locked)

If your FEATURE line in the license file contains a HOSTID= string, you have a node-locked license. This license file is tied to a particular machine via its NIC card address or disk ID.

Figure 2-2. Typical License Configuration for a Trial or Node-Locked License



When you have a node-locked license, installation is very straightforward and is one of the options below.

- ◆ You can install the license directly on the end-user desktop, in which case you do not need the License Manager.
- ◆ You can install the License Manager server to consolidate your licenses in one location.

Redundant License Servers

Tip: If a large number of licenses are governed by a single license server, failure of the server becomes a major event. To prevent problems, you should set up redundant servers so that if one server goes down, the License Manager can still function.

Redundant License Management provides limited protection against license server failure by dispersing the responsibility of managing client licenses over three independent servers.

When using redundant server licensing, you need to configure the same license file on three server machines. The license file must contain the names of each server and be installed on each server in the same order as they appear in the license file. You can edit the license file so that the servers are listed in any order, however, that license file version must be exactly the same on all three machines.

The first two machines listed in the license file are designated as potential masters and the third is designated as the slave machine. In a master-slave relationship, two out of the three server machines must always be active in order to service licensing. Whichever of the first or second listed servers starts up first becomes the master server. Compuware recommends that the three servers be brought up in the order listed in the license file.

If the master server goes down, the other of the first two servers listed becomes the master. The third listed server is never the master. Its whole purpose is to help maintain a quorum. If the third machine goes down, then both of the first two servers must remain up in order to serve licenses.

Required: When restoring a previously lost server, shut down all three servers and restart them in the same order listed in the license file.

For more information on setting up redundant servers on UNIX or Windows, see:

- ◆ For UNIX, see “[Redundant Servers](#)” on page 38.
- ◆ For Windows, see “[Setting Up Redundant Servers](#)” on page 47.

Caution: Redundant license servers do not work with borrow-enabled licenses.

Request a License from Compuware

Tip: You can also contact your Compuware sales representative.

To obtain a permanent license, you must provide Compuware with the host information of the machine on which the license will reside. You can either e-mail the file **hostinfo.txt** to Compuware's Worldwide License Management department at **license_mgt@compuware.com** or determine the host information using the LAU and e-mail that information to Compuware.

When you receive your license file from Compuware, copy the file to either the:

- ◆ Product directory for node-locked licenses without the use of the License Manager.
- ◆ License Manager directory pointed to by the server on the license server machine for concurrent licenses or centrally administered licenses.

Supported Platforms

The following table lists the platforms upon which DLM components can be installed, licensed, and run.

Table 2-1. Supported Platforms

Platforms	License Manager	License File	Borrow Proxy Server	Borrow Proxy Client
Alpha Open VMS	-	x	-	-
DEC (TRUE 64 Open Alpha UNIX)	x	x	x	-
HP-UX (32-/64-bit)	x	x	x	-
IBM-AIX (32-/64-bit)	x	x	x	-
Linux	x	x	x	-
Reliant	x	x	-	-
Sun-Solaris 2.x (32-/64-bit)	x	x	x	-
Windows - 95*, 98, Me, NT 4.0, 2000, XP (32-/64-bit)	x	x	x	x

*Compuware does not recommend using DLM components on Windows 95.

Impact to System Performance

The following table identifies the impact to a system due to the License Manager, daemon, and Borrow Proxy Server running on a machine.

Table 2-2. Impact to System Performance

Service	File Name	Memory	Space
License Manager	compuwar.exe	3 MB	752 KB
daemon	lmgrd.exe	3 MB	595 KB
Borrow Proxy Server	bpsService.exe	3 MB	644 KB

Getting Started

The remaining chapters in this manual discuss installing and configuring the License Administration Utility (LAU), License Manager, Borrow Proxy Server, Borrow License Client, and Remote License Administration Utility (RLAU).

To begin installation and configuration, see the appropriate License Installation Checklist below.

License Installation Checklists

If you are installing a Compuware product with an automatic trial feature, you do not need to take any further action until you obtain your permanent license. Your trial license allows you to use your Compuware product between 14–45 days, depending on the product.

The following checklists can assist you in the licensing process after your trial license has expired or if you are installing your permanent license. Please begin with the following:

- Determine the type of license model you have (node-locked or concurrent). See [“License Models”](#) on page 15.
- See [“Determine if You Need the License Manager”](#) on page 18.
- If you are required to install the License Manager, see the [“Installing the License Manager”](#) checklist below.
- If you have a node-locked license and do not require the License Manager, install the Compuware product.

Installing the License Manager

- Select the platform (Windows or UNIX) on which the License Manager may run.
 - For Windows, see [“License Installation and Configuration for Windows”](#) on page 27.
 - For UNIX, see [“License Installation and Configuration for UNIX”](#) on page 33.
- Use the License Administration Utility (LAU) to perform one of the following:
 - Configure the license.
 - Add a new license to an existing license (see the [“Adding a New License to an Existing License File”](#) checklist).
 - Assign the license file to the License Manager.

- Have clients connect to the License Manager to add the license path to their license environment. See [“Defining a Local License Environment”](#) on page 45.
- If license borrowing is enabled (for concurrent licenses only):
 - For administrators, see the [“License Borrowing for Administrators”](#) checklist.
 - For clients, see the [“License Borrowing for Clients”](#) checklist.
- If you are using the Remote License Administration Utility (RLAU), see the [“Using the Remote License Administration Utility \(RLAU\)”](#) checklist.
- If the terms `“USER_BASED”` or `“HOST_BASED”` are in your license files, see the [“Using an Options File”](#) checklist.

Adding a New License to an Existing License File

- Start the LAU and merge the new license with the existing license file.

License Borrowing for Administrators

- Check that you have a concurrent license, which is required in order to use license borrowing.
- If your license file has the keyword BORROW, install the Borrow Proxy Server when you install the License Manager, even if borrowing may not take place. See [Chapter 6, “License Borrowing”](#).
- Configure the Borrow Proxy Server.
 - For Windows, this is done automatically during installation of the LAU and License Manager.
 - For UNIX, see [“Borrow Proxy Server”](#) on page 38.
- Start the Borrow Proxy Server.

License Borrowing for Clients

- Start the Borrow License Client.

Using the Remote License Administration Utility (RLAU)

- See [“Overview of Remote License Administration Utility”](#) on page 53.

Using an Options File

- ❑ Specify a name for the options file on the DAEMON line of the Compuware license file.
- ❑ Create an options file if one of your FEATURE lines contains a USER_BASED or HOST_BASED clause.

Chapter 3

License Installation and Configuration for Windows



Overview

The procedures in this chapter describe how to install the Distributed License Management (DLM) license components on a Windows server. You can use Windows 95, 98, Me, NT, 2000, or XP as the server to host the License Manager.

Depending on the type of license you have, the following steps are necessary to install and operate the License Manager in your environment:

- 1 Uninstall the License Manager and its components. See [“Uninstalling the License Manager”](#) on page 27.
- 2 Install the License Manager and its components. See [“Installing the License Manager”](#) on page 28.

Installation of the License Manager is only required for concurrent license types (SERVER and DAEMON lines are present in the license file). Installing the License Manager is not required if you have a node-locked license (see [“License Manager is Not Required \(Node-Locked\)”](#) on page 19).

- 3 Configure each client to access the License Manager. See [“License Configuration”](#) on page 43.
- 4 Create an options file, if necessary. Refer to the online help for DLM.

Uninstalling the License Manager

You must uninstall previous versions of the License Manager before installing the Version 3.4 License Manager. This ensures that the components for DLM 3.4 function properly. Use the following method to uninstall the License Manager and its components from your system.

- 1 From the **Start** menu, choose **Settings>Control Panel**.
- 2 Double click **Add/Remove Programs** to display the **Add/Remove Programs Properties** dialog box.
- 3 Select **Compuware License Manager** from the list of programs.
- 4 Click **Add/Remove** to display the InstallShield Wizard.
- 5 Follow the instructions on the screen to proceed through the un-install process.

Installing the License Manager

Required: If you are upgrading to version 3.4 of Compuware’s Distributed License Management software from a previous version of the license management software, you must first uninstall your old License Manager version before you install the new License Manager and all of its components to enable license borrowing.

Tip: If you are on a client that may be a server, see “Defining a Local License Environment” on page 45 to install the License Manager and bypass the following steps.

Follow the instructions below to install the License Manager. For best results, close all programs before installing your Compuware product and the DLM components.

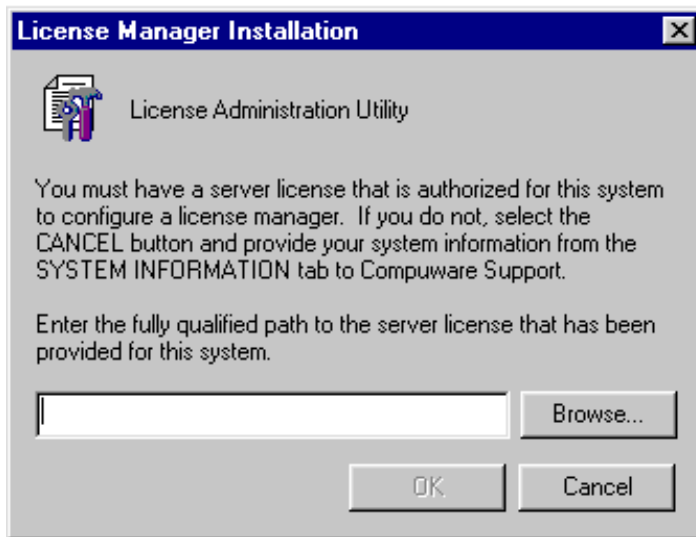
Installation for 32-Bit

The following steps apply to installing the License Manager on Windows 32-bit platforms.

- 1 From your Compuware product installation CD, select **Install (Compuware) License Manager**. This starts the InstallShield Wizard for the License Manager. You need to navigate through several screens to proceed through the InstallShield Wizard. These screens require you to perform tasks such as:
 - ◇ Read and accept the **License Agreement**.
 - ◇ Provide **Customer Information**.
 - ◇ Start **Copying Files**.
- 2 Click **Next** after completing each screen of the InstallShield Wizard.

- 3 After you click **Next** to copy the files, the License Administration Utility (LAU) opens and the following dialog box appears.

Figure 3-1. License Manager Installation Dialog Box



- ◇ If you have a server license, type the fully qualified path in the field next to the **Browse** button and click **OK**. This starts the License Manager service.
 - ◇ If you do not have a server license, click **Cancel** and provide the system information from the **System Information** tab on the LAU to Compuware's Customer Support.
- 4 Exit the LAU and click **Finish** to complete the installation.

Installation for 64-Bit

The following steps apply to installing the License Manager on Windows 64-bit platforms.

- 1 From your Compuware product installation CD, select **Install (Compuware) License Manager**. This starts the InstallShield Wizard for the License Manager. You need to navigate through several screens to proceed through the InstallShield Wizard. These screens require you to perform tasks such as:
 - ◇ Read and accept the **License Agreement**.
 - ◇ Provide **Customer Information**.
 - ◇ Start **Copying Files**.

- 2 Click **Next** after completing each screen of the InstallShield Wizard.
- 3 After the files are copied, click **Finish** to complete the installation.
- 4 Click the taskbar's **Start** button and choose **All Programs>Compuware>License Administration>License Administration Utility** to implement your Compuware license.

Configuring the Borrow Proxy Server

It is necessary to configure each machine before you can begin using the product (see “[License Configuration](#)” on page 43).

During the installation and configuration of the License Manager, your license is automatically scanned and checked for the BORROW keyword. If it is present, the Borrow Proxy Server is automatically installed and started. Use the Borrow Proxy Server to provide the borrowing capability for Compuware products to each client. On client systems that reference licensed servers that support license borrowing, the Borrow License Client is automatically configured by the LAU.

Required: If the keyword BORROW is present in your license file, the Borrow Proxy Server must always run in conjunction with the License Manager, even if borrowing may not take place.

Troubleshooting

Comparing License Manager Versions

Follow the instructions below to compare the License Manager version number already on the License Manager server with the version number on the product CD.

- 1 Determine the version number already on the License Manager server:
 - a At the DOS prompt, navigate to the directory where the License Manager is located.
 - b Type the following command at the DOS prompt:
`lmutil lmver lmgrd.exe`
 - c Press **Enter** and a message similar to the following displays.

```
lmutil - Copyright (C) 1989-2001 Globetrotter Software, Inc.  
FLEXlm v7.2i (liblmgr.a), Copyright (C) 1988-2001, Globetrotter  
Software, Inc.
```

- 2 Determine the version number on the product CD:
 - a Insert the product CD, open a DOS prompt, and navigate to the directory of the CD.
 - b Type `lmutil lmver lmgrd.exe` and press **Enter** to display the version information.
- 3 If the CD has a newer version, update the License Manager by selecting the option on the product CD for installing the Compuware License Manager.

Chapter 4

License Installation and Configuration for UNIX



Overview

The licensing process varies based on the Compuware product being installed, your agreement with Compuware, and the platform on which the License Manager is installed.

When a License Manager is needed, setup involves the following steps:

- Optional
- 1 Uninstall the License Manager and its components. See [“Uninstalling the License Manager”](#) on page 34.
 - 2 Install the License Manager and its components. See [“Installing the License Manager”](#) on page 34.
Installation of the License Manager is only required for concurrent license types (SERVER and DAEMON lines are present in the license file). Installing the License Manager is not required if you have a node-locked license. If you have a node-locked license for a client machine, all you need to do is set the LM_LICENSE_FILE environment variable. See [“License Environment Variable for UNIX Clients”](#) on page 37.
 - 3 Configure the License Manager to start. See [“Configuring the License Manager”](#) on page 35.
 - 4 Prevent users from shutting down the License Manager. See [“Preventing Users From Shutting Down the License Manager”](#) on page 39.
 - 5 Configure each client to access the License Manager. See [“License Environment Variable for UNIX Clients”](#) on page 37.
 - 6 Configure the Borrow Proxy Server to start. See [“Borrow Proxy Server”](#) on page 38.
 - 7 Create an options file, if necessary. Refer to the online help for DLM.

Uninstalling the License Manager

It is not necessary to remove the old License Manager files from your machine. You have the freedom to leave older versions of the License Manager on your machine, but only one License Manager can serve Compuware licenses on a UNIX platform at a time.

Caution: Be sure to save your license files before removing the license file directory.

To uninstall the License Manager and remove the license file directory and its contents, type the following command:

```
rm -r /usr/local/cwlm
```

Installing the License Manager

Follow the steps below to install the License Manager.

- 1 Mount the CD-ROM on your system (root access required).
- 2 Check to see if the License Manager is already running by typing one of the following at the command prompt in the licensing components directory:

◇ `lmutil lmstat -c <license file>`

◇ UNIX command: `ps -e|grep lmgrd`

- 3 The License Manager messages indicate if it is already running. If it is running, type the following to shut it down:

```
lmutil lmdown -c <license file>
```

- 4 Change to the mount directory. For example, if `/cdrom` is the mount directory, type the following: `cd /cdrom`
- 5 Navigate to the directory on the CD that contains the Compuware executable license files for the platform on which you are setting up the License Manager. The path is:

```
<CD drive>/cpwr/cwlm/directory name
```

Refer to the table below for the directory name for each platform.

Table 4-1. UNIX Directories

Platform	Directory Name
IBM-AIX 64-bit	cwlmaix64.32
IBM-AIX 32-bit	cwlmaix32.32
DEC	cwlmdec.32
HP-UX 64-bit	cwlmhp64.32
HP-UX 32-bit	cwlmhp32.32
Linux	cwlmlinux
Sun-Solaris 2.x 64-bit	cwlmsun64.32
Sun-Solaris 2.x 32-bit	cwlmsun32.32

- 6 Type the following to install the License Manager on your system:

```
./install
```
- 7 The install script asks the name of the target directory for the License Manager. Compuware suggests `/usr/local/cwlm` (root access required to create the directory). You are notified when install is complete. (If install has a problem creating the directory, you are notified of the error and are forced to exit.)
- 8 Before you can start the License Manager, you must supply Compuware with the host ID of the node on which you plan to run the License Manager. To get this ID, type the following command within the directory created previously:

```
lmutil lmhostid
```

The ID, which the licensing system uses for validation, is displayed. You must send this ID to Compuware. Compuware then sends back a license file that replaces the temporary or trial `license.lic` in the license file directory (usually `/usr/local/cwlm`).

Required: You must receive a new license file from Compuware before proceeding to “[Configuring the License Manager](#)” on page 35.

Configuring the License Manager

To validate the license for Compuware products, the License Manager needs to be running whenever a client requests a license check out. You

can configure the License Manager to start automatically (each time the server boots) or to be started manually.

- 1 Verify that the licensing components are installed, including the license file. At a command prompt, navigate to the directory containing the License Manager.
- 2 Ensure that the License Manager is shut down. Check to see if the License Manager is already running by typing one of the following commands:

- ◇ `lmutil lmstat -c <license file>`
- ◇ UNIX command: `ps -e|grep lmgrd`

The license utility messages indicate if it is already running.

Required: You cannot run two License Managers simultaneously and must shut one down before starting a new one.

- 3 Type the following to shut the License Manager down:
`lmutil lmdown -c <license file>`
- 4 Do one of the following:
 - ◇ **To start the License Manager manually** (required each time the server reboots), type the following:
`lmgrd -c /fullpathname/license.dat > license.log &`
 - ◇ **To start the License Manager automatically** each time the server reboots, follow the suggested procedure below for the appropriate platform:

Table 4-2. Suggested Automatic Startup Per Platform (UNIX)

Platform	Action
AIX	In <code>etc/rc.local</code> , type the following command on one line: <code>nohup /etc/lmgrd -c /cpwr/license/license.dat>license.log2>&1&</code>
HP-UX	In <code>/sbin/rc3.d</code> , create a file named <code>s95cw1m.server</code> and add the following command to the file: <code>nohup lmgrd -c /cpwr/license/license.dat>license.log&</code>

Table 4-2. Suggested Automatic Startup Per Platform (UNIX)

Platform	Action
Linux	In <code>/etc/rc.d/rc2.d</code> , create a file named <code>s95cw1m.server</code> and add the following command to the file: <pre>nohup lmgrd -c /cpwr/license/ license.dat>license.log&</pre>
Sun Solaris	In <code>/etc/rc2.d</code> , create a file named <code>s95cw1m.server</code> and add the following command to the file: <pre>nohup lmgrd -c /cpwr/license/ license.dat>license.log&</pre>

License Environment Variable for UNIX Clients

If the License Manager is required (concurrent license), each client must be configured to automatically access the License Manager or license file. If the License Manager is not required (node-locked license), a license file is required on each client machine. The `LM_LICENSE_FILE` environment variable is used on UNIX systems to set the license path. Follow the procedures below depending on which shell type you use.

Set the `LM_LICENSE_FILE` environment variable in the global environment using the appropriate command for your particular shell. This configures each UNIX client to access the License Manager or license file.

C shell

- ◆ If the client is accessing a license file on the **client machine** (node-locked), use:

```
setenv LM_LICENSE_FILE /<full path to license>/
license.dat
```

- ◆ If the client is accessing the License Manager on a **server** (concurrent), use:

```
setenv LM_LICENSE_FILE 7166@<hostname>
```

Tip: The port number is typically 7166.

Bourne shell

For the Bourne shell a two-line command is used:

- ◆ If the client is accessing a license file on the **client machine** (node-locked), use:
 - `LM_LICENSE_FILE=/<full path to license>/license.dat`
 - `export LM_LICENSE_FILE`

- ◆ If the client is accessing the License Manager on a **server** (concurrent), use:
 - a `LM_LICENSE_FILE=PORT@HOST`
 - b `export LM_LICENSE_FILE`

Korn shell

- ◆ If the client is accessing a license file on the **client machine** (node-locked), use:

```
export LM_LICENSE_FILE=/<full path to license>/  
license.dat
```
- ◆ If the client is accessing the License Manager on a **server** (concurrent), use:

```
export LM_LICENSE_FILE=7166@<hostname>
```

Redundant Servers

After you install the License Manager on all three server machines in the redundant configuration, you must edit the license file created during these installations to include the additional port numbers and host names.

Tip: Remember to separate the paths with a colon.

For example on servers `Hostname1`, `Hostname2`, and `Hostname3` on Port 7166, the `LM_LICENSE_FILE` environment would read:

```
...7166@Hostname1:7166@Hostname2:7166@Hostname3...
```

Borrow Proxy Server

If license borrowing is enabled (a license file containing a `FEATURE` line with the `BORROW` keyword), you can configure the Borrow Proxy Server to start automatically (each time the server boots) or to be started manually. Do one of the following:

- ◆ **To start the Borrow Proxy Server manually** (required each time the server reboots), follow the steps below.
 - a Verify that the Borrow Proxy Server is installed. At a command prompt, navigate to the directory containing the license borrowing components.
 - b At the command prompt, type the following:

```
$ls
```
 - c You should see the files `bps.run` and `bps.stat`. If you do not see the files, re-run the `install` script. See “[install](#)” on page 40.

d Type the following:

```
$bps.run -c [license file] -p [port number] -l  
[log file]
```

This creates a file called `bps.stop`, which is used to stop the Borrow Proxy Server.

◆ **To start the Borrow Proxy Server automatically** each time the server reboots, type the following command:

```
nohup bps.run -c <license_file> -p <port_#> -l  
<log_file> &
```

Preventing Users From Shutting Down the License Manager

To prevent users from shutting down the License Manager, use the `-p -2` option (identified below), which goes directly after the `lmgrd` reference for any of the platforms in [Table 4-2](#) on page 36. If this option is selected, only administrators with root privileges can shut down the License Manager.

```
nohup path_to/lmgrd -p -2 -c /path_to/license.dat >  
license.log &
```

UNIX Components

The installation directory for the UNIX platform includes the following files:

`aes` A configure script for the License Manager.

`bps.cfg` An optional file that is used with borrow-enabled licensed components. Create this file to set borrow restrictions. (This file is not shipped on the CD-ROM, it must be created by the customer.)

`bps.run` A file that brings up the Borrow Proxy Server.

Syntax:

```
bps.run -c <license_file> -p <port_number> -l <log_file>
```

- ◇ The `<license_file>` argument must contain a license file with a `FEATURE` line that has the keyword `BORROW`.
- ◇ Port number must be unique on the network.

- bps.stat** This utility reports the status of the Borrow Proxy Server.
- Syntax:**
- ```
bps.stat (with no arguments)
```
- bps.stop** This file is not shipped on the CD-ROM and is created when bps.run is issued. Use bps.stop to shut down the Borrow Proxy Server.
- checkPort** This file checks for a valid port.
- cl\_merge** An executable file called by the install script. This script merges two license files together.
- Syntax:**
- ```
cl_merge -t <target_master_lic_file> -s <source_file>
```
- ◇ *<target_master_lic_file>* is the target (destination) master license file with which the new (source) license file is merged.
 - ◇ *<source_file>* is the new license file that is merged with the target file.
- Sample script usage:**
- ```
#!/bin/sh
cp $1 $1%
echo "merging $1 $2"
echo "A backup has been written to $1%"
cl_merge $1 $2
```
- cl\_sort** This executable sorts an existing license file and is called by cl\_merge. It requires a license file as its only argument.
- Syntax:**
- ```
cl_sort <license_file>
```
- cl_valid** This executable validates a license file. It prints errors to stdout.
- Syntax:**
- ```
cl_valid -l <license_file> -r <flexlm.rul_file>
```
- ◇ *<license\_file>* is a license file that is to be scanned for errors.
  - ◇ *<flexlm.rul\_file>* is the rule script file that is to be run against the license file.
- compuwar** The vendor-specific daemon produced by the lmgrd.
- flexlm.rul** Rule file used by cl\_valid.
- install** An install script for the License Manager. See [“Installing the License Manager”](#) on page 34.
- lmgrd** The License Manager application itself.



**lmutil** The License Administration Utility for administering the license management system.

## Troubleshooting

### *Comparing License Manager Versions*

Follow the instructions below to compare the License Manager version number already on the License Manager server with the version number on the product CD.

- 1** Determine the version number already on the License Manager server:
  - a** Navigate to the directory on the server where the License Manager is located.
  - b** Type `lmutil lmver lmgrd` and press **Enter**. Make note of the License Manager version number located in the response message.
- 2** Determine the version number on the product CD:
  - a** Insert the product CD, open a command prompt, and navigate to the directory of the CD.
  - b** Type `lmutil lmver lmgrd.exe` and press **Enter** to display the version information.
- 3** If the CD has a newer version, update the License Manager by selecting the option on the product CD for installing the Compuware License Manager.



# Chapter 5

## License Administration Utility



### Overview

The License Administration Utility (LAU) is a Windows-based administration tool that can display all Compuware product license information available on both the client and server environments. The LAU is used for license configuration and administration. On systems where a License Manager is installed, the user-definable attributes of a License Manager can also be changed.

### Starting the LAU

To start the LAU, click the taskbar's **Start** button and choose **(All) Programs>Compuware>License Administration>License Administration Utility**.

### License Configuration

All client and server systems require that a valid license source be added to their license environments in order to use a Compuware product. This valid license source transitions you from a trial license to a permanent license. A license source can be a local file or a server reference, that is, `port@host`. In either case, the license source must authorize the system and the Compuware products for which it is deployed.

The LAU simplifies the process of the transition from a trial to a permanent license by providing an identical method for configuring both client and server systems. The LAU facilitates licensing on client systems by configuring a path variable in the Windows Registry. When a new license source is created, each valid license source is appended to the path variable.

## Concurrent License

When using a concurrent license model, each client machine must be configured to reference the licensed server. The licensed server is defined as any system that has been authorized by a valid license file to provide remote start-up authorization for Compuware applications. Before a licensed server can authorize remote application start-up, it must be running the License Manager service (LMGRD).

The LMGRD is automatically registered and started on the licensed server machine by the LAU when a valid server license is presented to the LAU. Presenting a server license on systems that are not defined in the license file as the designated server results in the configuration of a client.

In addition to the registration, configuration, and activation of the License Manager service, the LAU also registers, configures, and starts the Borrow Proxy Service for those server licenses that support license borrowing. On client systems that reference licensed servers that support license borrowing, the Borrow License Client is automatically configured by the LAU. For more information on license borrowing, see [Chapter 6, “License Borrowing”](#).

## Node-locked License

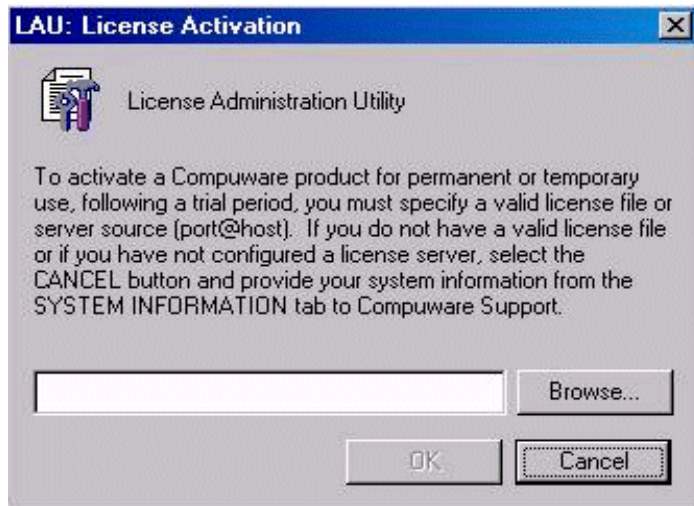
In the case of a node-locked license model, only the system designated in the license file is authorized to run the specified Compuware applications. The LAU only accepts a node-locked license on the system that it authorizes.

## ***First-Time User License Activation***

When the LAU is started for the first time, you are prompted to provide a valid license source (see [Figure 5-1](#)). It is important to note that this

dialog box does not appear if you have already installed previous versions of Compuware products.

Figure 5-1. LAU: License Activation Dialog Box



If this dialog box does not appear and you already have a Compuware product installed on your machine, proceed to [“Defining a Local License Environment”](#) on page 45.

## Defining a Local License Environment

If you have not provided the LAU with a license source, the following notification appears (see [Figure 5-2](#)) each time the LAU is started, until you have defined the local license environment.

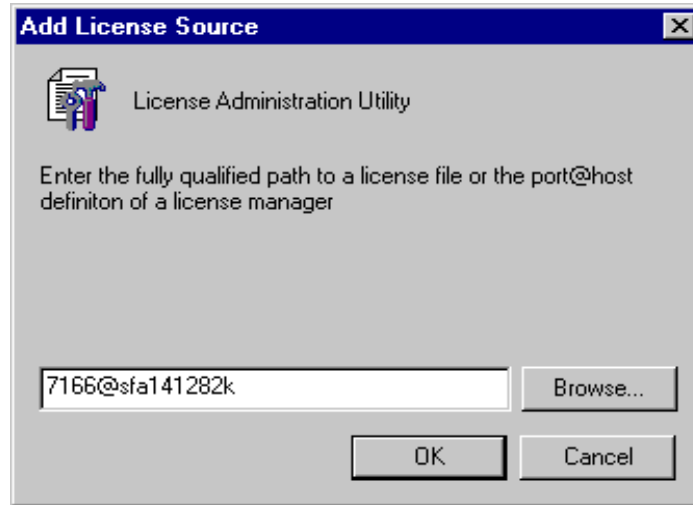
Figure 5-2. LAU License Configuration Notification Dialog Box



Follow the steps below to define a local license environment by adding a license source.

- 1 Start the LAU. (See “Starting the LAU” on page 43.)
- 2 Click the **Local Environment** tab.
- 3 Click **Add** to open the **Add License Source** dialog box.

Figure 5-3. Add License Source Dialog Box



*Tip:* The port number is typically 7166.

- 4 Type the fully qualified path to a license file or click **Browse** to open the **Open** dialog box and find the license file. Or type the port@host definition of the License Manager.  
For example, 7166@sfa141282k; 7166=port and sfa141282k=host.
- 5 Click **OK** to add the license source to the environment.  
If you are a client that is a server, this starts the License Manager service and adds the **LMGRD Service** tab to the LAU.

When provided with a license source, the LAU performs an analysis and determines the best course of action to implement the source into the environment. In addition, the source is checked for errors.

**Note:** If you are updating a license file, Compuware recommends that you merge the new license file with the existing one.

## Server Machine

If the license source is for a server machine, the LAU checks to see if the license is a match for the current machine. If it is a match, the LAU verifies that the information that identifies the machine is correct. During the analysis, one of the following events can occur:

- ◆ If the MAC address matches the current machine, but the host name does not, a dialog box appears and the License Editor launches allowing you to correct the problem.
- ◆ If the MAC address does not match the current machine, but the host name is correct, a dialog box appears notifying you that you have an invalid license.

In addition to checking the license for errors, the LAU also reviews the licensed system for a previous License Manager installation. If one exists, the new license is automatically merged with the existing server license. However, if the license is concurrent and a License Manager has not been installed, the LAU installs it, adds the **LMGRD** tab (License Manager) to the LAU, and incorporates the license source into the path.

### Concurrent License

If a concurrent license is provided to a client, the license is automatically converted to a server source and the LAU checks to see if the server is running.

### Node-locked License

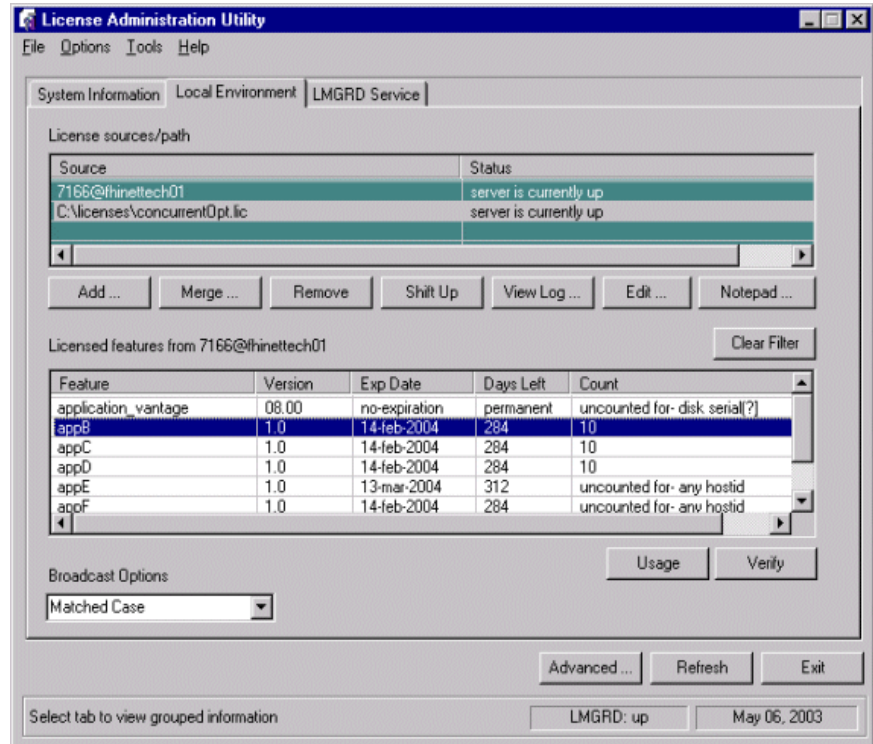
In the case of a node-locked license, the system information is compared against the license authorization information to see if it is a match. If a match does not exist, a dialog box appears and the license source is not added to the path. Contact Compuware's Customer Support for assistance.

## ***Setting Up Redundant Servers***

Each client machine must have an entry in its license path to each of the three redundant servers. Perform the following steps using the **Local**

**Environment** tab on the LAU (see [Figure 5-4](#)) to add each of the three redundant servers to the local license environment.

[Figure 5-4](#). Local Environment Tab on the LAU



- 1 Click **Add** to open the **Add License Source** dialog box (see [Figure 5-3](#)).
- 2 Type the port@host server location of the License Manager in the field next to the **Browse** button.
- 3 Click **OK** to add the license source to the environment.

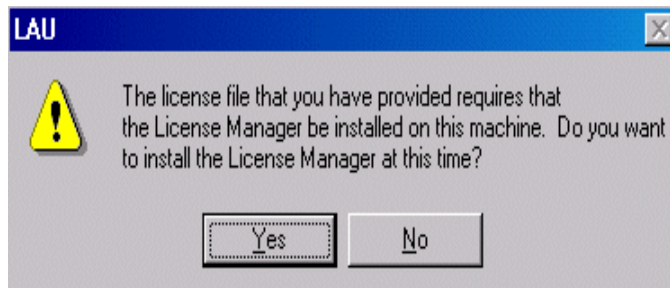
Although it is not necessary to have the three servers listed in the same order as they appear in the license file, it is operationally more efficient to have them in the same sequence. You can add each server individually and change the order of the items by selecting a source in the list and clicking **Shift Up** on the **Local Environment** tab.



## Installing the License Manager on Windows

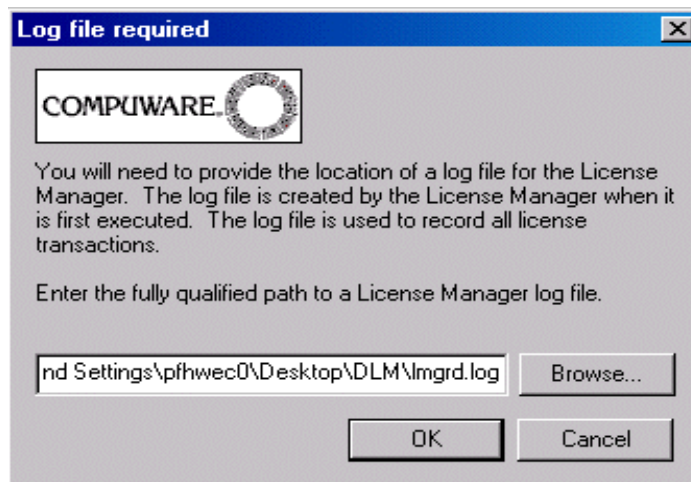
If during the configuration process you get the following dialog box (see [Figure 5-5](#)), then your license file contains a SERVER or DAEMON line and the License Manager must also be installed.

Figure 5-5. Notice to Install License Manager Dialog Box



- 1 Click **Yes** to continue the configuration process. The **Log File Required** dialog box appears (see [Figure 5-6](#)).

Figure 5-6. Log File Required Dialog Box



- 2 Click **Browse** to open the **Open** dialog box and find the log file for the License Manager. By default, a log file location is already selected for you.
- 3 Click **OK** to complete the configuration of the License Manager and start it.



# Chapter 6

## License Borrowing



### Overview

Installation of license borrowing components is handled automatically with the installation of the LAU for Windows, but for UNIX you must manually install the Borrow Proxy Server. See [“Installing the Borrow Proxy Server on UNIX”](#) on page 52. The Borrow Proxy Server (BPS) needs to be installed and run in the same directory as the License Manager (`lmgrd.exe`).

During automatic installation of the LAU and License Manager in Windows or manual installation of the License Manager in UNIX, your license is automatically scanned and checked for the BORROW keyword. If it is present, the Borrow Proxy Server is automatically installed and started. If the Borrow Proxy Server is installed, Compuware products do not run unless both the Borrow Proxy Server and License Manager are running.

**Windows Only:** On client systems that reference licensed servers that support license borrowing, the Borrow License Client is automatically configured by the LAU. A system administrator should verify that each client machine that borrows licenses has the Borrow License Client installed. The Borrow License Client cannot be installed on the same machine as the Borrow Proxy Server.

---

**Required:** If the keyword BORROW is present in your license file, the Borrow Proxy Server must always run in conjunction with the License Manager, even if borrowing may not take place.

---

## Windows

### *Starting the Borrow Proxy Server*

To start the Borrow Proxy Server, click the taskbar's **Start** button and choose **(All) Programs>Compuware>License Administration>Borrow Proxy Service>Borrow Proxy Server**.

### *Starting the Borrow License Client*

To start the Borrow License Client, click the taskbar's **Start** button and choose **(All) Programs>Compuware>License Administration>Borrow Proxy Service>Borrow Client**.

## UNIX

The Borrow Proxy Server for UNIX can run on the following UNIX platforms:

- ◆ DEC
- ◆ HP-UX (32-/64-bit)
- ◆ IBM - AIX (32-/64-bit)
- ◆ Linux (Redhat Linux)
- ◆ Sun Solaris 2.x (32-/64-bit)

### *Installing the Borrow Proxy Server on UNIX*

Install the Borrow Proxy Server during installation of the License Manager by using the `install` script. See [“Installing the License Manager”](#) on page 28 and [“Borrow Proxy Server”](#) on page 38.

## Chapter 7

# Remote License Administration Utility

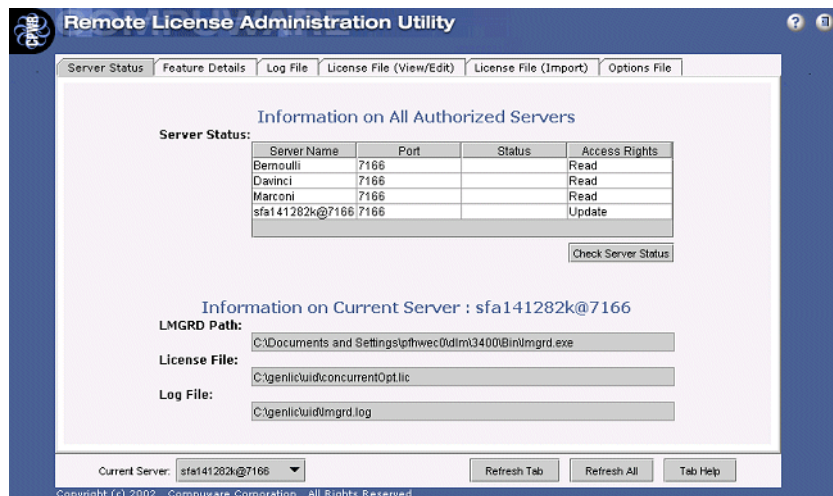


## Overview of Remote License Administration Utility

Distributed License Management's Remote License Administration Utility (RLAU) provides a central point of license administration and the RLAU runs on an HTTP server. The file for the utility (dlmCGIAdmin) is automatically included during the install process of your Compuware product.

The RLAU allows the administrator to monitor and maintain the Compuware client/server licensing environment from a remote location via a Web browser, without being present at the server.

Figure 7-1. The Remote License Administration Utility



The RLAU consists of several components. These components include a Java applet, a user configuration tool, and a CGI.

Unlike the applet portion of the RLAU, the CGI module and user configuration tool are non-Java applications, which means that unique binaries exist for each supported platform.

The following steps are necessary to install and operate the RLAU in your environment:

- 1 Install the License Manager and its components.
  - ◇ For Windows, see [“Installing the License Manager”](#) on page 28.
  - ◇ For UNIX, see [“Installing the License Manager”](#) on page 34.
- 2 Install the RLAU components.
  - ◇ For Windows, see [“Installation for Windows”](#) on page 55
  - ◇ For UNIX, see [“Installation for UNIX”](#) on page 56.
- 3 Create user accounts. See [“Creating User Accounts”](#) on page 56.
- 4 Define the License Manager. See [“Defining the License Manager”](#) on page 58.
- 5 Configure the vendor daemon to allow streaming of information. See [“Configuring the Compuware Vendor Daemon to Accept Requests”](#) on page 59.
- 6 Configure the CGI. See [“Configuring the CGI”](#) on page 60.
- 7 Configure the RLAU. See [“Configuring the RLAU”](#) on page 60.
- 8 Start the RLAU. See [“Starting the RLAU”](#) on page 61.

## Tested Environments

---

**Required:** The Java applet component requires that client systems that access the applet via a browser, such as Netscape or Explorer, have a minimum of Java 1.4 installed for Java support.

---

The RLAU was tested and works properly in the following environments.

### Web Servers

- ◆ Apache on UNIX Solaris 8.0
- ◆ IIS on Windows 2000 Server
- ◆ iPlanet on Windows NT Server and Solaris 8.0

## Browsers

- ◆ Internet Explorer 5.5 and 6.0
- ◆ Netscape 6.2

**Note:** Java Plug-in 1.3 and 1.4 for Netscape 6.2 are not supported in the AIX, HP, and Redhat environments.

## Supported Platforms

The following table lists the platforms and components upon which the RLAU can be installed, licensed, and run. The table also shows the binary-to-platform relation of all binary components provided for the RLAU. An administrator with root access to the machine should perform installation and configuration of these components.

Table 7-1. Supported Platforms

| Platforms                                                                                     | Component List                                        |
|-----------------------------------------------------------------------------------------------|-------------------------------------------------------|
| Windows 98, NT 4.0, 2000, XP                                                                  | dImCGIAdmin.exe, rIauCGI.exe                          |
| Linux, HP-UX, HP-UX 64, OSF/Digital, AIX, AIX 64-bit, SunOS/Solaris, and SunOS/Solaris 64-bit | dImCGIProcess <platform>, dImCGIAdmin <platform>, aes |

## Installing the RLAU Components

Follow the instructions below to install the RLAU components.

### Installation for Windows

The following steps apply to installing the RLAU components on a Windows platform.

---

**Required:** You should have root or administrative access to the HTTP server before running the InstallShield Wizard.

---

- 1 From your Compuware product installation CD, open the DLM\_Web\_Tool folder and double-click on the setup.exe file to start the InstallShield Wizard for the RLAU. You need to navigate through

**Tip:** There is no default for the Destination Location, therefore, you must specify a destination before continuing. This location must be on your HTTP server and it should be designated as the site location for the RLAU application.

several screens to proceed through the InstallShield Wizard. The screens require you to perform tasks such as:

- ◇ Read and accept the **License Agreement**.
  - ◇ Provide **Customer Information**.
  - ◇ Choose your **Destination Location**.
  - ◇ Start **Copying Files**.
- 2 Click **Next** after completing each screen of the InstallShield Wizard.
  - 3 Click **Finish** to complete the installation.

## Installation for UNIX

The following steps apply to installing the RLAU components on a UNIX platform.

- 1 From your Compuware product installation CD, open the `DLM_Web_Tool` folder.
- 2 Copy the files, `rlau.html` and `rlau.jar`, to a location on your HTTP server. The location on your server should be designated as the site location for the RLAU application.

## Creating User Accounts

To create user accounts, run the `d1mCGIAdmin` executable file for the platform that corresponds to the system that you have designated as your HTTP server. The `d1mCGIAdmin` file has a text-based GUI, which means that it can be run in a text-based terminal window, such as Telnet.

---

**Required:** You should have root or administrative access to the HTTP server before running the component.

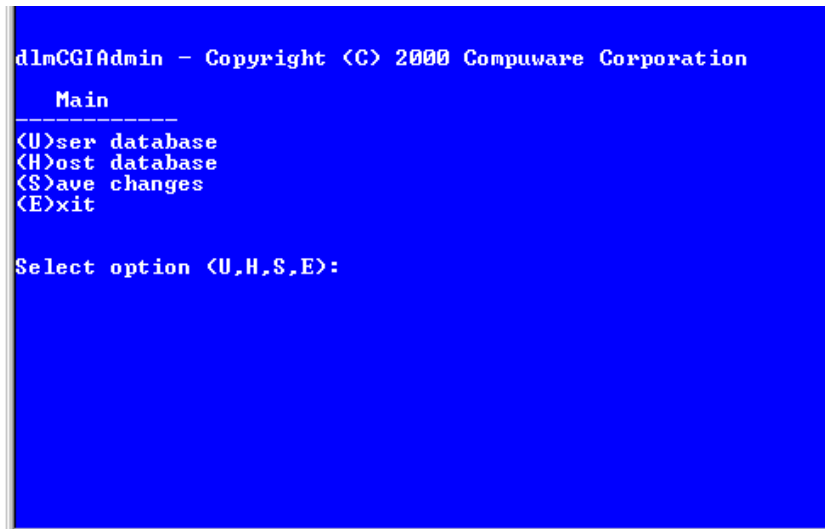
---



To run the dlmCGIAdmin component:

- 1 At the command prompt, type `dlmCGIAdmin <platform>` or `dlmCGIAdmin.exe` to display the **dlmCGIAdmin Main Menu** screen (see [Figure 7-2](#)).

Figure 7-2. dlmCGIAdmin Main Menu Screen



```
dlmCGIAdmin - Copyright (C) 2000 Compuware Corporation
 Main

(U)ser database
(H)ost database
(S)ave changes
(E)xit

Select option (U,H,S,E):
```

- 2 Type U and press **Enter** to access the User Database Menu.
- 3 Type N and press **Enter** to add a New User to the User Database.
- 4 Type a user name and press **Enter**.
- 5 Type a password for the newly created user and press **Enter**.
- 6 Re-type the password for confirmation and press **Enter**. A message appears on the screen to confirm that the user was added to the user database.
- 7 Press **Enter** to add another user and repeat steps 3 through 6.
- 8 To return to the Main Menu, press **Enter** three times.

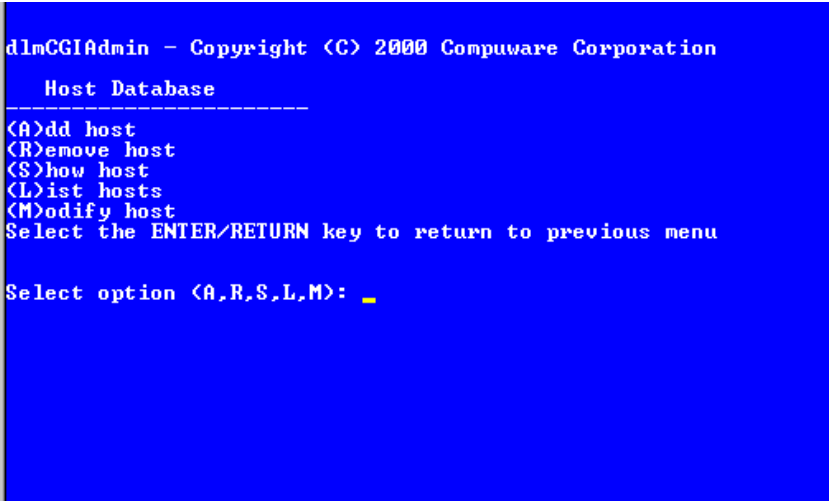
Only users with accounts can access the License Managers. User accounts are added to the `dlm_password` file that is located in the `/etc` directory for UNIX platforms and the `C:\Windows` directory for Microsoft OS platforms.

## Defining the License Manager

Before interaction between a client (applet) and a License Manager can occur, you must identify the License Manager to the CGI. To define the License Manager:

- 1 From the Main Menu of dlmCGIAdmin, type H and press **Enter** to access the **Host Database Menu** screen (see [Figure 7-3](#)).

Figure 7-3. dlmCGIAdmin Host Database Menu Screen



```
dlmCGIAdmin - Copyright (C) 2000 Compuware Corporation
Host Database

(A)dd host
(R)emove host
(S)how host
(L)ist hosts
(M)odify host
Select the ENTER/RETURN key to return to previous menu

Select option (A,R,S,L,M): _
```

- 2 Type A and press **Enter** to add a host name or TCP/IP address.
  - 3 Type the host name or TCP/IP address of the License Manager to be added and press **Enter**.
- Note:** The TCP/IP address can be either the hostname-alias or the actual IP address of a system that is running the License Manager.
- 4 Type an alias name for the host and press **Enter**.
    - ◇ If an alias is specified, the alias is displayed on the client instead of the TCP/IP identifier of the License Manager. References to the License Manager can use either the alias or the host name.
    - ◇ If an alias is not specified, only the host name or TCP/IP address, whichever is supplied during the creation of the host entry, can be used to identify a License Manager.
  - 5 Type the port number where the License Manager is listening and press **Enter**. The port number can be found on the SERVER line of your license file. A message appears on the screen to confirm that the alias and host was added to the host database.

- 6 Press **Enter** to add another host and repeat steps 3 through 5.
- 7 Press **Enter** three times to return to the Main Menu.
- 8 Type U and press **Enter** to access the User Database Menu.
- 9 Type A and press **Enter** to add a host to a user's account.
- 10 Type the name of the user from the list displayed and press **Enter**.
- 11 Type the host name or TCP/IP address or alias of the License Manager where the user needs access and press **Enter**. A message appears on the screen to confirm that reference to the host name was added for the user.
- 12 Press **Enter** to add another host reference to a user's account and repeat steps 10 and 11.
- 13 Press **Enter** three times to return to the Main Menu.
- 14 Type E and press **Enter** to exit.

## Configuring the Compuware Vendor Daemon to Accept Requests

There are two levels of security provided for support of Web-browsing. In addition to defining user accounts for the CGI, each vendor daemon must also be authorized to allow the streaming of information. Therefore, although a user can have access to a License Manager in their account description, the License Manager still has the ability to block all requests.

### Configuring in Windows

To configure the Compuware vendor daemon in Windows:

- 1 Run `cpwrDiag.exe` (found on the product CD).
- 2 Select the **License Manager(5)** tab.
- 3 Select the checkboxes **Enable remote review of the log file** and **Enable remote review/edit of the license file**.
- 4 Click **Exit/Close**.

---

**Caution:** If you do not configure the Compuware vendor daemon, you cannot view the license file information in the License File tab or the log file information in the Log File tab of the RLAU.

---

## Configuring in UNIX

From within UNIX, you must run the `aes configure` script to define the location of the license file and log file and to make sure they are pointing to the same license. If they are not, the log file does not match the license file when viewing them in the RLAU.

## Configuring the CGI

The CGI (Common Gateway Interface) component of the RLAU provides interaction between the client and a specific License Manager. The CGI only allows one client at a time to communicate with an individual License Manager. Before accessing a License Manager from a remote location, a client-user must have a registered account with the CGI.

After you have configured your user accounts (see [“Creating User Accounts”](#) on page 56) and the individual License Managers (see [“Defining the License Manager”](#) on page 58), you need to copy the Exec folder, which is located in your installation destination, to a location where it can start on the HTTP server.

## Windows 95, 98, ME, and UNIX

In a Windows 95, 98, ME, or UNIX environment, the CGI is started at the command line or placed in a UNIX rc-startup file. To start the CGI at the command line, type the following command:

```
d1mCGIProcess -p <port number>
```

## Configuring the RLAU

After you start the CGI, run it on the HTTP server. To configure the RLAU:

- 1 Go to the location where the InstallShield Wizard placed the RLAU.
- 2 Create a link from your intranet site to the RLAU.  
Example: `http://sitename/d1mweb/rlau.html`
- 3 Open the `rlau.html` file.
- 4 Modify the `rlau.html` source file in the following areas:

- a The `<param name=cgidir>` needs to be changed to point to the location of `rlaucgi.exe`.
- b The `<param name=timeout>` value needs to reflect how long you want to wait before time-out for the user occurs.

## Starting the RLAU

After you configure the RLAU, users can access it in a browser window. To start the RLAU:

- 1 Open a browser window, such as Internet Explorer or Netscape Navigator.
- 2 Type the intranet site address in the **Address** field of the browser window. See [“Configuring the RLAU”](#) on page 60 for information on configuring the RLAU.
- 3 Press **Enter**.

---

**Required:** In order to run the RLAU, you must have the Java Runtime Environment (JRE) version 1.4 or later. If you do not have this JRE, you are prompted by a series of dialog boxes to install the correct version of the JRE.

---

## Where to Go Next

For instructions on how to log in to the RLAU, access the online help by clicking **Global Help** on the **Login** screen of the RLAU.



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