



# Installing and Licensing IDL 6.2

**RSI**

IDL Version 6.2  
July 2005 Edition  
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# Contents

<b>Chapter 1</b>	
<b>Introduction</b> .....	<b>11</b>
Contacting RSI .....	12
System Requirements .....	13
IDL 6.2 .....	13
Hardware and Operating System Requirements for IDL 6.2 .....	13
Software Requirements for IDL 6.2 .....	14
ION 6.2 .....	14
Hardware and Operating System Requirements for ION 6.2 .....	14
Web Server Requirements for ION 6.2 .....	15
Web Browser Requirements for ION 6.2 .....	15
Java Virtual Machine Requirements for ION 6.2 .....	16
IDL-Java Bridge .....	16
Hardware and Operating System Requirements for the IDL-Java Bridge .....	16
Java Virtual Machine Requirements for the IDL-Java Bridge .....	17

Licensing Methods .....	18
IDL Virtual Machine .....	18
Demonstration Mode .....	18
Evaluation License .....	18
Personal Use License .....	19
Node-Locked License .....	19
Floating License .....	20
Running IDL in Demonstration Mode .....	21
Installing and Running on Windows .....	21
Installing and Running on UNIX .....	21
Installing and Running on Macintosh .....	21
Running the IDL Demo Applications .....	22
Windows .....	22
UNIX .....	22
Macintosh .....	22
<b>Chapter 2</b>	
<b>Installing and Licensing IDL 6.2 for Windows .....</b>	<b>23</b>
Introduction .....	24
Before You Begin .....	24
Recommended Steps for Installing and Licensing IDL for Windows .....	24
IDL Virtual Machine .....	24
Evaluation Licenses .....	24
Personal Use Licenses .....	24
Node-Locked Licenses .....	25
Floating Licenses .....	25
Installing IDL for Windows .....	26
System Requirements .....	26
Running the IDL Installer .....	26
Installing IDL Silently and Unattended .....	29
Licensing IDL for Windows .....	30
Requesting a License .....	30
Preparing a License Request .....	30
Manually Sending a License Request .....	32
Evaluation Licensing .....	32
Personal Use Licensing .....	33

Node-Locked Licensing .....	34
Floating Licensing .....	36
Customizing Floating Licenses .....	40
Working with the License Server .....	41
Multiple Applications Using the Same License Server .....	43
Saving the License File in an Alternative Location .....	46
Windows 2000 .....	46
Windows XP .....	46
Upgrading the Network License Server from a Previous Installation .....	47
Running IDL under Windows .....	49
Running the IDL Virtual Machine under Windows .....	49
Running IDL Runtime Programs under Windows .....	50
<b>Chapter 3</b>	
<b>Installing and Licensing IDL 6.2 for UNIX .....</b>	<b>51</b>
Introduction .....	52
Before You Begin .....	52
Recommended Steps for Installing and Licensing IDL for UNIX .....	52
IDL Virtual Machine .....	52
Evaluation Licenses .....	52
Personal Use Licenses .....	53
Node-Locked or Floating Licenses .....	53
Installing IDL for UNIX .....	54
System Requirements .....	54
Mount the IDL CD-ROM on Your System .....	54
Run the IDL Installer .....	55
Unmount the IDL CD-ROM from Your System .....	57
Licensing IDL for UNIX .....	58
Setting Up Your Environment .....	58
Requesting a License .....	59
Preparing a License Request .....	59
Manually Sending a License Request .....	60
Evaluation Licensing .....	61
Personal Use Licensing .....	62
Node-Locked or Floating Licensing .....	63
Modifying the License File .....	67

Sample License Files .....	67
Viewing or Modifying the License File .....	67
Upgrading the Network License Server from a Previous Installation .....	69
Working with the License Server .....	69
Starting the License Manager .....	69
Creating a License Manager Log File .....	70
Shutting Down the License Manager .....	70
Reclaiming an Unused License .....	71
Checking the License Manager Status .....	72
Obtaining a Host ID .....	73
Troubleshooting .....	73
Multiple Applications That Use the Same License Manager .....	74
All Products Use the Same Server Nodes .....	74
The Products Use Different Servers .....	75
Troubleshooting .....	76
Setting Up the IDL Environment .....	77
Define IDL Environment Variables and Aliases .....	77
Define ION Environment Variables and Aliases .....	78
Define the Path to the License File or License Server .....	78
Node-Locked License .....	79
Floating Licenses .....	80
Understanding License Sources .....	81
Running IDL under UNIX .....	82
Running the IDL Virtual Machine under UNIX .....	82
Running IDL Runtime Applications under UNIX .....	83
<b>Chapter 4</b>	
<b>Installing and Licensing IDL 6.2 for Macintosh .....</b>	<b>85</b>
Introduction .....	86
Recommended Steps for Installing and Licensing IDL for Mac OS X .....	86
IDL Virtual Machine .....	86
Evaluation Licenses .....	86
Personal Use Licenses .....	86
Node-Locked or Floating Licenses .....	87
Installing IDL for Macintosh .....	88
System Requirements .....	88

Run the IDL Installer .....	88
Licensing IDL for Macintosh .....	90
Setting Up Your Environment .....	90
Requesting a License .....	90
Preparing a License Request .....	90
Manually Sending a License Request .....	91
Evaluation Licensing .....	91
Personal Use Licensing .....	91
Node-Locked or Floating Licensing .....	91
Modifying the License File .....	93
Upgrading the License Server from a Previous Installation .....	93
Working with the License Server .....	94
Multiple Applications That Use the Same License Server .....	94
Setting Up the IDL Environment .....	95
Running IDL for Macintosh .....	96
Running IDL from Applescript .....	96
Running IDL from the Command Line .....	97
Running the IDL Virtual Machine under Macintosh .....	98
Running from Applescript .....	98
Running from the Command Line .....	98
Running IDL Runtime Applications under Macintosh .....	99
Removing IDL for Macintosh .....	100
<b>Appendix A</b>	
<b>Troubleshooting Licensing .....</b>	<b>101</b>
General Information .....	102
Other Resources .....	102
Macrovision .....	102
RSI Technical Support Library .....	102
For Further Help .....	102
Evaluation Licenses .....	103
The License Information Does Not Pass the Checksum Test .....	103
The File Already Exists .....	103
The File Cannot Be Written .....	103
Personal Use Licenses .....	104
Check the License Format .....	104

Files Needed for Initialization of the Licensing Program Could Not Be Found .....	105
License File Does Not Support This Version .....	105
IDL Cannot Find License .....	106
Node-Locked Licenses (Windows) .....	107
Check the License Format .....	107
The Hostid of This System Does Not Match the Hostid .....	108
The License File Does Not Support This Version .....	108
Cannot Find License .....	109
Licenses Requiring a License Server .....	110
All Platforms .....	110
Check That the License Server Is Running .....	110
Is the License Server Available from Your Machine? .....	110
Stop and Restart the License Manager .....	111
Is the LM_LICENSE_FILE Environment Variable Set to the License File of Another Application? .....	111
Has Your License File Been Copied Correctly? .....	112
Is the License Manager Using the Correct License File? .....	112
Does the License File Contain the Correct Hostname? .....	113
UNIX and Macintosh .....	113
Is the Proper Executable File (idl) in Your Command Search Path? .....	113
Are the File Permissions Correct? .....	113
Does IDL Know the Location of the Main IDL Directory? .....	113
Are Network Permissions Set Properly? .....	114
Is the License File in the Correct Location and Are Its Permissions Set Correctly? 114	
License Manager Startup .....	115
Invalid Server Hostname .....	115
Inconsistent Encryption Code .....	115
No Features to Serve .....	115
Retrying Socket Bind and Cannot Establish Lock .....	115
No Such File or Directory .....	116
No “License” Server Found .....	116
Cannot Find License File .....	116
Cannot Read License File .....	117
Wrong Hostid for Server (Windows) .....	117
Wrong Hostid (UNIX) .....	117



Path Not Found (UNIX) .....	117
Invalid Server Hostname (UNIX) .....	118

## **Appendix B**

### **Running Older Versions of IDL ..... 119**

Running Older Versions of IDL Concurrently with IDL 6.2 .....	120
Start the Latest Version of the License Manager .....	120
Using IDL Version 5.x with the IDL Version 6.2 License Manager .....	120

## **Appendix C**

### **Customizing Your Floating Licenses ..... 121**

Creating an Options File .....	121
Options File Keywords .....	122
Sample Options Files .....	124
To Reserve Licenses for a Group .....	124
To Reserve Licenses for Individuals .....	124





# Chapter 1

# Introduction

This guide describes how to install and license version 6.2 of the following products:

- **IDL** — the standard version of IDL, offering full access to all of the software's features including the ability to run and compile programs.
- **IDL Virtual Machine**— a free runtime version of IDL that lets users run IDL applications and other IDL-based programs that have been packaged as IDL `.sav` files. The IDL development environment and the command line are not accessible when using IDL Virtual Machine.

# Contacting RSI

If you have problems with installing or licensing this software product, contact Research Systems technical support for assistance:

- Email: [support@RSInc.com](mailto:support@RSInc.com)
- Phone: (303) 413-3920
- Fax: (303) 786-9909
- Web site: <http://www.RSInc.com> — visit the Technical Support section on our Web site for Tech Tips and Frequently Asked Questions

International customers should contact their local RSI office or distributor for technical support.

# System Requirements

## IDL 6.2

### Hardware and Operating System Requirements for IDL 6.2

The following table describes the supported platforms and operating systems for IDL 6.2:

Platform	Vendor	Hardware	Operating System	Supported Versions
Windows	Microsoft	Intel x86 32-bit	Windows	2000, XP
Macintosh <sup>a,b,c</sup>	Apple	PowerMac G4, G5	OS X	10.3, 10.4
UNIX <sup>c</sup>	HP <sup>e</sup>	PA-RISC 32-bit	HP-UX	11.0
	HP <sup>e</sup>	PA-RISC 64-bit <sup>a,b</sup>	HP-UX	11.0
	IBM <sup>e</sup>	RS/6000 32-bit	AIX	5.1
	IBM <sup>e</sup>	RS/6000 64-bit <sup>a,b</sup>	AIX	5.1
	Intel	Intel x86 32-bit	Linux <sup>d</sup>	Red Hat Enterprise 3.x, Fedora Core 3 <sup>b</sup>
	Intel/AMD	x86_64 64-bit <sup>a,b,e</sup>	Linux <sup>d</sup>	Red Hat Enterprise 3.x
	SGI <sup>e</sup>	Mips 32-bit	IRIX	6.5.1
	SGI <sup>e</sup>	Mips 64-bit <sup>a,b</sup>	IRIX	6.5.1
	SUN	SPARC 32-bit	Solaris	8, 9
SUN	SPARC 64-bit <sup>a,b,e</sup>	Solaris	8, 9	

*Table 1-1: Hardware Requirements for IDL 6.2*

On platforms that provide 64-bit support, IDL can be run as either a 32-bit or a 64-bit application. When both versions are installed, the 64-bit version is the default. The 32-bit version can be run by specifying the `-32` switch at the command line, as follows:

```
% idl -32
```

<sup>a</sup> The DXF file format is not supported on Mac OS X or 64-bit platforms.

<sup>b</sup> The IDL DataMiner is not supported on Mac OS X, Fedora Core 3, or 64-bit platforms.

<sup>c</sup> For UNIX and Mac OS X, the supported versions indicate that IDL was either built on (the lowest version listed) or tested on that version. You can install and run IDL on other versions that are binary compatible with those listed.

<sup>d</sup> IDL 6.2 was built on the Linux 2.4 kernel with `glibc 2.3.2` using Red Hat Linux. If your version of Linux is compatible with these, it is possible that you can install and run IDL on your version.

<sup>e</sup> IDLffDicomEx and IDL DICOM Network Services are not supported on HP, IBM, SGI, or any 64-bit platforms.

## Software Requirements for IDL 6.2

The following table describes the software requirements for IDL 6.2:

Platform	Software Requirements
Windows	Internet Explorer 5.0 or higher
Macintosh	Apple X11 X-Windows manager

*Table 1-2: Software Requirements for IDL 6.2*

## ION 6.2

ION™ (IDL On the Net) is a family of products that allow you to run IDL-driven applications in a networked environment, giving intranet or Internet users access to IDL visualization and analysis.

The ION family consists of two products:

- ION Script™
- ION Java™

ION Script and ION Java can be used separately or together to create interactive Web applications powered by IDL. These two products are available as options during installation of IDL for Windows or UNIX.

## Hardware and Operating System Requirements for ION 6.2

The following table describes the supported platforms and operating systems for ION 6.2:

Platform	Vendor	Hardware	Operating System	Supported Versions
Windows	Microsoft	Intel x86	Windows	2000, XP

*Table 1-3: Hardware Requirements for ION 6.2*

Platform	Vendor	Hardware	Operating System	Supported Versions
UNIX <sup>a</sup>	Intel	Intel x86 32-bit	Linux <sup>b</sup>	Red Hat Enterprise 3.x, Fedora Core 3
	SGI	Mips 32-bit	IRIX	6.5.1
	SUN	SPARC 32-bit	Solaris	8, 9

*Table 1-3: Hardware Requirements for ION 6.2 (Continued)*

<sup>a</sup> For UNIX, the supported versions indicate that ION was either built on the lowest version listed or tested on that version. You can install and run ION on other versions that are binary compatible with those listed.

<sup>b</sup> ION 6.2 was built on the Linux 2.4 kernel with `glibc 2.3.2` using Red Hat Linux. If your version of Linux is compatible with these, it is possible that you can install and run ION 6.2 on your version.

## Web Server Requirements for ION 6.2

In order to use ION, you must install an HTTP Web server. ION has been tested with the following Web server software:

- Apache Web Server version 2.0 for Windows, Linux, and Solaris
- Apache Web Server version 1.3.14 for IRIX (included with the IRIX operating system)
- Microsoft Internet Information Server (IIS) version 5.0 for Windows 2000 Server and version 5.1 for Windows XP Professional

## Web Browser Requirements for ION 6.2

ION 6.2 supports the HTTP 1.0 protocol. The following are provided as examples of popular Web browsers that support HTTP 1.0:

- Mozilla Firefox version 1.0 and later
- Netscape Navigator — Versions 4.7 and later
- Microsoft Internet Explorer — Versions 5.5 and later

Browsers differ in their support of HTML features. As with any Web application, you should test your ION Script or Java application using Web browsers that anyone accessing your application is likely to be using.

## Java Virtual Machine Requirements for ION 6.2

The following are provided as examples of popular Web browsers that are shipped with the required JVMs:

- Mozilla Firefox version 1.0 and later
- Netscape Navigator versions 4.7 and later
- Microsoft Internet Explorer versions 5.5 and later

Browsers differ in their support of Java features. As with any Web application, you should test your ION Java application using Web browsers that anyone accessing your application is likely to be using.

## IDL-Java Bridge

IDL now supports the use of Java objects. You can access Java objects within your IDL code using the IDL-Java bridge, a built-in feature of IDL 6.2. The IDL-Java bridge enables you to take advantage of special Java I/O, networking, and third party functionality.

The IDL-Java bridge is installed by default in a standard IDL installation. See [Chapter 8, “Using Java Objects in IDL”](#) in the *External Development Guide* manual for details.

## Hardware and Operating System Requirements for the IDL-Java Bridge

[Table 1-4](#) describes the supported platforms and operating systems for the IDL-Java bridge:

Platform	Vendor	Hardware	Operating System	Supported Versions
Windows	Microsoft	Intel x86 32-bit	Windows	2000, XP
Macintosh <sup>a</sup>	Apple	PowerMac G4	OS X	10.3, 10.4
UNIX <sup>a</sup>	Intel	Intel x86 32-bit	Linux <sup>b</sup>	Red Hat Enterprise 3.x, Fedora Core 3
	SGI	Mips 32-bit	IRIX	6.5.1
	SUN	SPARC 32-bit	Solaris	8, 9
	SUN	SPARC 64-bit	Solaris	8, 9

*Table 1-4: Hardware Requirements for the IDL-Java Bridge*



On platforms that provide 64-bit support, IDL can be run as either a 32-bit or a 64-bit application. When both versions are installed, the 64-bit version is the default. The 32-bit version can be run by specifying the `-32` switch at the command line, as follows:

```
% idl -32
```

<sup>a</sup> For UNIX and Mac OS X, the supported versions indicate that IDL was either built on (the lowest version listed) or tested on that version. You can install and run IDL on other versions that are binary compatible with those listed.

<sup>b</sup> IDL 6.2 was built on the Linux 2.4 kernel with `glibc 2.3.2` using Red Hat Linux. If your version of Linux is compatible with these, it is possible that you can install and run IDL on your version.

## Java Virtual Machine Requirements for the IDL-Java Bridge

IDL supports version 1.3.1 and greater on all platforms with the following exceptions:

- The supported version on Macintosh is 1.3.x
- SUN SPARC 64-bit has only version 1.4.x and greater

# Licensing Methods

Access to IDL and other products from RSI is controlled by a software application that ensures a proper license has been entered on the user's system. Licensing options include demonstration, evaluation, IDL Virtual Machine, personal use, node-locked, and floating, each discussed in the following sections. If you are installing IDL to run an application provided by a third-party developer, consult the licensing instructions that accompany that application.

## IDL Virtual Machine

The IDL Virtual Machine is a freely distributed runtime utility for running IDL programs that are distributed as \*.sav files compiled in IDL version 6.2 and later. This utility runs without an IDL license, so it can be installed on any machine to make it possible for others to run the IDL applications you develop. Virtual Machine installations are limited to *running* IDL applications; you cannot create IDL applications on an IDL Virtual Machine installation. (The IDL Virtual Machine is not related to the Java Virtual Machine.) For more information about the IDL Virtual Machine, see the `IDLvm.pdf` file on the installation CD-ROM.

The IDL Virtual Machine is installed automatically as part of a full IDL application installation, but it can also be installed by itself from the IDL Installation CD-ROM. You can also download the IDL Virtual Machine from the RSI Web site at [www.rsinc.com/download](http://www.rsinc.com/download).

## Demonstration Mode

Demonstration mode allows you to run a limited version of IDL in seven-minute demonstration mode. You do not need to request or enter a license file. For more information, see “[Running IDL in Demonstration Mode](#)” on page 21.

## Evaluation License

Evaluation licenses are temporary trial licenses allowing access to all IDL features for a specified number of days. Once the evaluation license expires, you will be alerted by a dialog box stating that the application is available only in seven-minute demonstration mode. Contact RSI or your local distributor to purchase a permanent license or to extend your evaluation license.

The following is a sample evaluation license key that you will receive by either email or fax:

Product:	IDL X.X
Expiration:	1-Sep-20XX
Key:	ABC123DEF456GHI7-123

## Personal Use License

Personal use licenses are permanent licenses tied to a single user. After you request a personal use license from RSI or your local distributor, you will receive a license key. Entering and saving the license key on a personal computer enables full IDL functionality for the designated user. A personal use license can be installed on up to four machines for the exclusive use of the designated user.

Personal use licenses are available for the Windows, Macintosh, and PC-based UNIX (Linux) versions of IDL 6.2 only. The following is a sample personal use license key that you will receive either by email or fax:

```
FEATURE idl idl_lmgrd X.XXX 1-jan-0000 uncounted \  
  ABC123DEF456GHI789JK  VENDOR_STRING="000000-01John Doe" \  
  HOSTID=ANY PLATFORMS=i86_r NOTICE=PERSONAL_USE ck=82
```

## Node-Locked License

Node-locked licenses tie a single software application to a single machine. This method of licensing requires a machine's unique host ID to be incorporated into a license file. After a license request is sent to RSI or your local distributor, a license file is returned. Entering and saving the license file enables full IDL functionality on the machine for which you have sent the host ID.

The following is a sample Windows single-user node-locked license key that you will see on your product license information form, which you will receive either by email or fax:

```
# Installation Number(s): 000011-70-1  
INCREMENT idl idl_lmgrd X.XXX 1-jan-0000 uncounted \  
  ABC123DEF456GHI789JK  VENDOR_STRING="000011-70-1Node-Locked \  
  Windows License"  HOSTID=00aabb11ccdd ck=28  
INCREMENT wavelet idl_lmgrd X.XXX 1-jan-0000 uncounted \  
  ABC123DEF456GHI789JK  VENDOR_STRING="000011-70-1Node-Locked \  
  Windows License"  HOSTID=00aabb11ccdd ck=28
```

A UNIX server-based node-locked license for a single user looks like this:

```
# License Number(s): 000111  
  
SERVER ourserver 00aabb11ccdd 1700  
DAEMON idl_lmgrd /usr/local/rsi/idl_6.2/bin  
INCREMENT idl idl_lmgrd x.000 0-jan-0000 10 0A0000A00A000AA0A \  
  VENDOR_STRING="000111Single Node-Locked UNIX License" \  
  HOSTID=0000aaaaa0aa0a ck=000  
FEATURESET idl_lmgrd ABC123DEF456GHI7
```

## Floating License

Floating licenses (also known as client/server licenses) allow multiple users to concurrently access IDL. After installing and licensing IDL on the server machine, the license manager, installed along with your IDL software, handles requests for licenses from remote client machines. As the server administrator, you can choose how users access the licenses. You can select to reserve licenses for individuals or groups, or select to allow all users to share access to the licenses. If you have a team of 20 people, and you have purchased IDL with 10 floating licenses, you can select to reserve licenses for certain individuals in the group, or allow all team members to share access to the ten licenses throughout the day.

While both *node-locked* and *floating licenses* use a license file or key containing information based on a unique host ID from the machine being licensed, floating licenses (and server-based node-locked licenses) additionally require the installation of a license manager.

IDL (with floating licenses and server-based node-locked licenses) uses the Macrovision FLEXlm license manager. The license manager runs continuously on your system, waiting for a request from IDL. When a request arrives, the license manager determines whether the proper license for a requested product is available. If the proper license is present and not already in use, the license manager allows access to the software.

The following is a sample floating license key that you will receive either by email or fax:

```
# Installation Number(s): 000011-70-1
SERVER myserver 00aabb11ccdd 1700
DAEMON idl_lmgrd C:\RSI\IDLXX\BIN\BIN.x86\IDL_LMGRD.exe
INCREMENT idl idl_lmgrd X.XXX 1-jan-0000 6 ABC123DEF456GHI789JK \
  VENDOR_STRING="000011-70-1Floating Windows License" ck=205
FEATURESET idl_lmgrd ABC123DEF456GHI7
```

The main difference between a single node-locked license and a floating license or server-based node-locked license is that a floating license or server-based node-locked license contains SERVER, DAEMON, and FEATURESET lines. The license server should be installed and run on the server indicated in the SERVER line of the license key.

# Running IDL in Demonstration Mode

If you want to run IDL for demonstration purposes, you must first install IDL.

---

**Tip**

Try running the IDL Demo Applications that illustrate some of the many ways IDL can help visualize data. See [“Running the IDL Demo Applications”](#) on page 22 for more information.

---

## Installing and Running on Windows

1. **Install IDL.** See [“Installing IDL for Windows”](#) on page 26. If you want to run IDL only in unlicensed demonstration mode, select **No** when prompted to launch the product licensing application.
2. **Start IDL.** Click the Windows **Start** button, and select **Programs** → **RSI IDL 6.2** → **IDL**. The Demo Mode dialog appears.
3. **Click OK.** This starts IDL in seven-minute demonstration mode. IDL will automatically start in demonstration mode until licensed.

## Installing and Running on UNIX

1. **Install IDL.** See [“Installing IDL for UNIX”](#) on page 54.
2. **Set up IDL.** See [“Setting Up Your Environment”](#) on page 58.
3. **Run IDL.** See [“Running IDL under UNIX”](#) on page 82. IDL will start in demonstration mode, which lets you run a seven-minute session.

## Installing and Running on Macintosh

1. **Install IDL.** See [“Installing IDL for Macintosh”](#) on page 88.
2. **Run IDL.** See [“Running IDL for Macintosh”](#) on page 96. IDL will start in demonstration mode, which lets you run a seven-minute session.

# Running the IDL Demo Applications

The IDL Demo Applications are a series of IDL programs that illustrate some of the many ways IDL can help you visualize data.

---

**Note**

If you have already started IDL, you can type in DEMO at the IDL command prompt:

```
IDL> DEMO
```

---

## Windows

Click the Windows **Start** button, and select **Programs** → **RSI IDL 6.2** → **IDL Demo**. If you have installed IDL Virtual Machine, select **Programs** → **RSI IDL Virtual Machine 6.2** → **IDL Demo**.

## UNIX

From the command line, either:

- Enter `idldemo`
- Start IDL by entering `idlde` and then enter `demo` at the IDL prompt

If `idldemo` or `idlde` does not work, you need to set IDL environment aliases. See [“Setting Up Your Environment”](#) on page 58.

## Macintosh

Double-click on the `RSI-DIR\idl_6.2\IDLDemos` application, where `RSI-DIR` is the installation directory.



## Chapter 2

# Installing and Licensing IDL 6.2 for Windows

This chapter covers the following topics:

---

Introduction .....	24	Licensing IDL for Windows .....	30
Installing IDL for Windows .....	26	Running IDL under Windows .....	49

# Introduction

## Before You Begin

You must have Administrator privileges to install IDL. If you do not have such privileges, the installation process cannot modify the system configuration of the machine, so it will fail. After you have installed IDL, you *do not* need Administrator privileges to run IDL.

## Recommended Steps for Installing and Licensing IDL for Windows

The steps required to install and license IDL depend upon the type of license you will be using. RSI recommends you use the following steps when installing and licensing IDL.

### IDL Virtual Machine

The following step is all that is required to install the IDL Virtual Machine:

1. **Install IDL Virtual Machine.** See [“Running the IDL Installer”](#) on page 26.

For more information about the IDL Virtual Machine, see [“IDL Virtual Machine”](#) on page 18.

### Evaluation Licenses

The following steps are recommended when installing and licensing IDL using an evaluation license:

1. **Install IDL.** See [“Running the IDL Installer”](#) on page 26.
2. **Request a license.** You might have already received an evaluation license key by email or fax. If you have not received it, contact your RSI sales representative to request an evaluation license.
3. **Enter your license key.** See [“Evaluation Licensing”](#) on page 32.

### Personal Use Licenses

The following steps are recommended when installing and licensing IDL using a personal use license:

1. **Install IDL.** See [“Running the IDL Installer”](#) on page 26.
2. **Request a license.** You might have already received your personal use license key by email or fax. If you have not received it, contact your RSI sales representative to request a personal use license.
3. **Enter your license key.** See [“Personal Use Licensing”](#) on page 33.



## Node-Locked Licenses

The following steps are recommended when installing and licensing IDL using a node-locked license:

1. **Install IDL.** See [“Running the IDL Installer”](#) on page 26.
2. **Request a license.** You might have already received your RSI product license information by email or fax. It provides your product installation number and additional information about licensing your product. If you have not received it, see [“Requesting a License”](#) on page 30 to create a license request.
3. **Enter your license key.** See [“Node-Locked Licensing”](#) on page 34.

## Floating Licenses

The following steps are recommended when installing and licensing IDL using a floating license:

1. **Install IDL on the license server.** Install the network license server on the machine you have designated to run the license manager. See [“Install the License Server”](#) on page 36.  
  
If you also want to run IDL on the machine, run the IDL installer and select the additional Network Server License option.
2. **Request a license.** You might have already received your RSI product license information by email or fax. It provides your product installation number and additional information about licensing your product. If you have not received it, see [“Requesting a License”](#) on page 30 to create a license request.
3. **Enter your license key.** See [“Floating Licensing”](#) on page 36.
4. **Configure the license server and start the license manager.** See [“Configure the License Server”](#) on page 38 and [“Start the License Manager”](#) on page 39.
5. **Install IDL on your client machines.** See [“Running the IDL Installer”](#) on page 26.
6. **Configure the client machine.** Configure the client machines so that they can access the license manager, see [“Configure Clients to Access the License Server”](#) on page 39.

# Installing IDL for Windows

This section describes system requirements, recommended steps for installing and licensing IDL, and installation instructions for IDL 6.2 on Windows platforms.

## System Requirements

The following are the system requirements for IDL 6.2 for Windows:

Requirement	Description
Disk space	175 MB (minimal recommended disk space for a default installation)
Operating system	Windows 2000 or Windows XP
Network interface card	A network interface card (NIC or Ethernet) is required for software-based node-locked and floating licensing
Browser	Internet Explorer 5.0 or higher

*Table 2-1: IDL 6.2 Windows System Requirements*

## Running the IDL Installer

### Note

You might be required to restart your computer during the installation process. To avoid losing unsaved information, save all open files and close any open applications before installing IDL.

If you are prompted to reboot after installation, you will need to run the licensing wizard to license IDL by selecting **Start** → **Programs** → **RSI IDL 6.2** → **License**.

To install IDL 6.2:

1. **Insert the IDL CD-ROM in your CD-ROM drive.** After a short delay, the IDL installer starts. If the installer does not start automatically, select **Start** → **Run**. In the **Run** dialog, type `x:\install`, where `x` is the name of your CD-ROM drive, and click **OK**.
2. **Start the IDL installation process.** Click **Install IDL** from the IDL autorun program. Then click **Next** to start the installation wizard.
3. **Accept the license agreement.** After reading the license agreement, click **Yes** to continue the installation.

4. **View the IDL release notes.** The release notes contain important information about this release of IDL. Click **Next** after viewing this information.
5. **Complete the Customer Information form.** Enter the following:
  - Your **User Name** (the name with which you log on to your system)
  - Your **Organization** (the name of your company, department., etc.)Click **Next** to continue.
6. **Select an installation option.** You have the choice of installing either the full **IDL** application or a runtime **IDL Virtual Machine** version for running IDL programs that are distributed as compiled \*.sav files. See “[IDL Virtual Machine](#)” on page 18 for more information on the IDL Virtual Machine. Click **Next** to continue.

---

**Note**

If you select the IDL Virtual Machine installation option, you will not be prompted to select features to install (Steps 8-11) or to license IDL (Step 13).

---

7. **Choose the destination location.** In the **Destination Location** dialog, select the directory in which to install IDL. The default installation directory, which is \RSI on the disk on your computer with the greatest amount of free space, is displayed. To install IDL in a different location, click **Browse**. In the **Choose Folder** dialog, select an alternate location and click **OK**. RSI recommends that you select the RSI folder in whatever location you choose.

The installation directory will be referred to as the *RSI-DIR* for the remainder of the installation and licensing instructions.

Click **Next** to accept the directory that is displayed.

8. **Select the features to install.** In the **Select Features** dialog, the typical installation features are preselected and indicated by check marks. Clicking a feature displays information about that option. To add a feature to your installation, click the check box to install the feature on your hard drive. To remove a feature from your installation, clear the check box.

---

**Note**

**Users with floating licenses:** If you are installing this version of IDL on the machine you have designated as the license server for floating licenses, you must select the **Network License Server** feature.

---

Click **Next** to continue.

---

**Note**

The DICOM Network Services module is available as an installation option. If you have opted to install it, you will be asked if you want to configure the network services to start automatically at boot time.

---

**Note**

---

ION (IDL On the Net) is available as an installation option. If you have opted to install ION, you will be prompted for ION configuration information. If you have *not* selected this installation option, proceed to Step 12.

---

9. If you are installing ION Java, you will be prompted to enter your Web server's default directory containing HTML files to automatically copy the necessary ION Java files to the Web server directory. This directory is often called `htdocs` (on the Apache Web server) or `wwwroot` (on the IIS Web server). For the Apache Web Server, the path to this directory might be similar to the following:

```
C:\Program Files\Apache Group\Apache2\htdocs
```

Enter the path and click **Next** to continue.

If you have installed a previous version of ION Java and have an existing `IONJava` directory within the `htdocs` directory, it will be renamed to `IONJava.backup`.

10. If you are installing ION Script, the **Web Server Configuration** dialog will prompt you for the location of your Web server's CGI executables directory. For example:

```
C:\Program Files\Apache Group\Apache2\cgi-bin
```

Enter the location.

**Note**

---

If you leave this field blank because you have not yet installed a Web server, you will need to manually copy `ion-i.exe` and `ion-p.exe` from the `ion_script\cgi-bin` directory to the CGI executables directory of your Web server after it has been installed.

---

11. In the second field of the **Web Server Configuration** dialog, specify the fully qualified domain name and path to the CGI executables directory for your Web server. For example:

```
myhost.mydomain.com/cgi-bin
```

Enter the domain name and path, and click **Next** to continue.

**Note**

---

If you leave this field blank because you have not yet installed a Web server, the installer will use your Windows machine name, and the path to your CGI executables directory will be assumed to be `\cgi-bin`. To access ION over the Internet once you have installed your Web server, you will need to update the Image Server and ION Script Parser URLs on the **URLs** tab of the ION Script Configuration utility (**Start** → **Programs** → **RSI ION 6.2** → **ION Script Configuration**) to use the fully qualified domain name and the proper path to your

Web server's CGI executable directory. For more information, see [Chapter 1, "Configuring ION Script"](#) in the *ION Script User's Guide* manual.

---

12. **Begin the installation.** Select **Next** from the **Start Copying Files** dialog.
13. **Run license program.** To license IDL now, click **Yes**. See the following sections for more information:
  - ["Evaluation Licensing"](#) on page 32
  - ["Personal Use Licensing"](#) on page 33
  - ["Node-Locked Licensing"](#) on page 34
  - ["Floating Licensing"](#) on page 36To license IDL at a later time, or to run IDL only in seven-minute demonstration mode, click **No**.

If you are installing IDL Virtual Machine, you will not be prompted to license IDL.
14. **Click Finish.** Your installation is now complete.

---

**Tip**

To modify or repair your installation, insert the IDL CD-ROM and click **Install IDL** from the IDL autorun program. From the **Program Maintenance** dialog, you can modify the installed components or repair your installation.

---

## Installing IDL Silently and Unattended

IDL 6.2 can be installed silently and unattended through an install script response file. This functionality is run using the `/s` and `/f1` parameters on the `setup.exe` file for the installation. The syntax for running the install script with these parameters is the following:

```
setup.exe /s /f1"<CD-ROM>:\unattend.iss"
```

The `setup.exe` file and a sample `unattend.iss` response file are located on the IDL installation CD. The sample file is set up to install all IDL features by default, but you can delete the components that you do not want to install by modifying the list in the file. You must then reorder the numbering to ensure that the components remain in numerical order, and you must change the component count to equal the number of components.

You can also record your own `unattend.iss` response file by running the installer with the following command:

```
setup.exe /r /f1"C:\unattend.iss"
```

Select the desired features and responses during this installation. The resulting response file can be used with future silent installations.

# Licensing IDL for Windows

This section explains how to license IDL 6.2 under Windows.

## Requesting a License

If you are licensing with a node-locked or floating license, you need a permanent license file from RSI or your distributor. The license file is created using information from the machine on which you have installed IDL. A built-in licensing program has been created to simplify the request and installation of your license file.

---

### Note

You do not need to use the licensing wizard to request a license if you are using an evaluation license or a personal use license. For more information, see “[Evaluation License](#)” on page 18 or “[Personal Use License](#)” on page 19.

---

---

### Note

The electronic request program will not be able to retrieve the correct information if you do not have a configured network interface card and do not have one or more of the following network protocols:

- NETBEUI Transport Protocol
  - NW Link (IPX/SPX) Transport Protocol
  - SNMP service
- 

## Preparing a License Request

The licensing wizard lets you easily generate and send a license request, which contains information necessary for RSI to generate your license key. If you have exited the installation program, access the licensing wizard by selecting **Start** → **Programs** → **RSI IDL 6.2** → **License**.

If you are requesting a license from an IDL Virtual Machine installation, select **Start** → **Programs** → **RSI IDL Virtual Machine 6.2** → **Evaluate IDL**.

---

### Note

If you have purchased a floating license, the licensing wizard must be run from the designated license server machine on which you have installed IDL. This ensures proper generation of the server LMHostid and Hostname for your license file.

---

1. **Begin the license request process.** Click **Permanent** from the Product Licensing dialog.

2. **Prepare a request file.** Click **Request** to prepare a license request file to submit to RSI. The licensing wizard guides you through the creation of a license request file that will contain all the information necessary for RSI to create a valid license file for your software installation.
3. **Enter your information.** Fill in the following text fields in the Permanent Licensing dialog:
  - **Contact Person** — enter the name of the person to whom the license file should be sent.
  - **Email Address** — enter the email address of the contact person.
  - **License Number** — enter the installation number found on the RSI Product Registration Form. You should have already received this form by email or fax. If you have not received the form, contact RSI technical support. See [“Contacting RSI”](#) on page 12 for more information.
  - **Site Notice** — enter the name that you want to appear when you launch the software. The name you select will replace *<your site notice>* in the following statement: “licensed for use by *<your site notice>*.” This is typically your company’s name, department, or project.
4. **Select the license type.** Select either **Node Locked** or **Floating**. The license wizard automatically generates the correct Hostname and LMHostid. Do not modify these values.
5. **Enter comments.** Enter any comments you might have and click **Next** to continue.
6. **Review your license request.** If the information is correct, click **Next** to save the license request file and proceed. If the information is incorrect, edit it in the text window or click **Back** to make any corrections.
7. **Send the license request file.** Click **Next** to send the license request file to RSI. If you did not purchase your software directly from RSI, modify the email address and send the file to your local distributor.

---

**Note**

If you cannot send email from your machine or if you receive a message stating that an attempt to send the email was unsuccessful, see [“Manually Sending a License Request”](#) on page 32. A license file will be generated and sent to you at the email address or fax number you supply.

---

8. **Exit the license wizard.** Click **Finish** to exit the license request program.

If you do not receive a license file or any confirmation that the request was received, see the section below to manually resend the request. To contact RSI, see [“Contacting RSI”](#) on page 12.

## Manually Sending a License Request

To manually send a license request, select the appropriate step below and email your request to [register@RSInc.com](mailto:register@RSInc.com) or fax the request file text to RSI at (303) 786-9909. If you did not purchase IDL directly from RSI, send the file to your local distributor.

- **From the license wizard** — select **Back** to display the request file. Copy all of the request information into an email message or fax this text to RSI.
- **Outside of the license wizard** — copy the request file, located in `RSI-DIR\license\rsi_request.txt`, where `RSI-DIR` is the directory where you have installed IDL, and send it by fax or email. If necessary, transfer the file to another machine that can send email.

## Evaluation Licensing

After installing IDL, use the licensing wizard to install the license key for your evaluation license. If you do not have a license key, contact your RSI sales representative to request an evaluation license.

1. **Start the licensing wizard.** If you have exited the installation program, access the licensing wizard by doing one of the following:
  - Select **Start** → **Programs** → **RSI IDL 6.2** → **License**.
  - If you are evaluating IDL from an IDL Virtual Machine installation, select **Start** → **Programs** → **RSI IDL Virtual Machine 6.2** → **Evaluate IDL**.
2. **Access the Evaluation Licensing dialog.** Select the **Evaluation** button on the Product Licensing dialog.
3. **Enter your license information.**
  - Select the product you want to license from the drop-down list. Only installed products are displayed
  - Enter the expiration date *exactly* as it appears on your registration form (for example, 1-Sep-2004)
  - Enter the license key *exactly* as it appears and click **Next**.
4. **Exit the licensing wizard.** Click **Finish**.

IDL is now licensed. After your trial period expires, a message stating this fact appears when you start IDL. Until relicensed, IDL will operate only in seven-minute demonstration mode.

---

### Note

If you encounter a problem, see “[Evaluation Licenses](#)” on page 103 for troubleshooting information.

---



# Personal Use Licensing

After installing IDL, use the licensing wizard to install the license key for your personal use license. Your license key will be sent to you via email or fax. If you have not received your license key, contact your RSI sales representative to request a personal use license

## 1. Save the License File

If your license key arrived via email, you can save the email message out to an unformatted text file so that the licensing wizard can import it. Complete the following steps:

1. From your email application, save the license key email anywhere on your system as a text-only file.
2. With a plain text editor such as Notepad, remove any lines that appear before and after the actual license information, keeping the comment lines that begin with the “#” character.
3. Either save the text file or copy the edited license information text to the Windows clipboard. For an example of a license key, see “[Personal Use License](#)” on page 19.

## 2. Enter the License Key

To enter your license key:

1. **Start the IDL Licensing Wizard.** If you have already exited the installation program and licensing wizard, click the Windows **Start** button, and select **Programs** → **RSI IDL 6.2** → **License**.
2. **Display the Permanent Licensing dialog.** Click **Permanent** and then **License** from the licensing wizard.
3. **Enter your license key.** Paste the text of the license key into the dialog, or click **Browse** to select the license file you saved on your system. If you paste in your license key text, remove any header lines that are included in the file, but keep the comment lines that begin with the “#” character. If you have received your license key via fax or other hardcopy method, type the information directly into the text window.

### Note

---

The license key consists of non-indented lines, indented lines, and blank lines. Besides the comment lines (lines beginning with the number sign [#]), non-indented lines should begin with a keyword such as FEATURE or INCREMENT. Because of email/fax limitations, extra-long lines of the license key might have been inadvertently wrapped to a new line. If a non-indented line begins with a character other than a number sign (#) or a FEATURE or INCREMENT keyword, then it is likely that an extra-long line has been incorrectly wrapped and that the segment belongs at the end of the previous line. Make sure that you review your license key for these errors. If the key does contain an error, the software will not be licensed.

---

4. **Save the license file.** Click **Next** to save the license file in the directory where you have installed the software. The licensing wizard recognizes the installation location and generates the appropriate path: `RSI-DIR\license\license.dat`.

---

**Note**

If you receive a message that there is an existing license file, save the existing file under a different name before proceeding. While the new license usually contains information for all currently licensed products, save the old file as a safeguard against destroying license information. Run the license wizard again to save the new license file in the default location.

---

5. **Exit the licensing wizard.** Click **Finish** to save the license file.

---

**Note**

If you need to save the license file in a directory other than the default `RSI-DIR\license\license.dat`, you must set an environment variable pointing to the `license.dat` file before starting the software or the license manager. See “[Saving the License File in an Alternative Location](#)” on page 46 for instructions.

---

**Note**

If you encounter a problem, see “[Personal Use Licenses](#)” on page 104 for troubleshooting information.

---

## Node-Locked Licensing

After installing IDL, use the licensing wizard to install the license key for your node-locked license. Your license key will be sent to you via email or fax. If you have not received your license key, see “[Requesting a License](#)” on page 30.

### 1. Save the License File

If your license key arrived via email, you can save the email message out to an unformatted text file so that the licensing wizard can import it. Complete the following steps:

1. From your email application, save the license key email anywhere on your system as a text-only file.
2. With a plain text editor such as Notepad, remove any lines that appear before and after the actual license information, keeping the comment lines that begin with the “#” character.
3. Either save the text file or copy the edited license information text to the Windows clipboard. For an example of a license key, see “[Node-Locked License](#)” on page 19.

## 2. Enter the License Key

To enter your license key:

1. **Start the IDL Licensing Wizard.** If you have already exited the installation program and licensing wizard, click the Windows **Start** button, and select **Programs** → **RSI IDL 6.2** → **License**.
2. **Display the Permanent Licensing dialog.** Click **Permanent** and then **License** from the licensing wizard.
3. **Enter your license key.** Paste the text of the license key into the dialog, or click **Browse** to select the license file you have saved on your system. If you paste in your license key, remove any header lines that are included in the file but keep the comment lines that begin with the “#” character. If you have received your license key via fax or other hardcopy method, type the information directly into the text window.

---

### Note

The license key consists of non-indented lines, indented lines, and blank lines. Besides the comment lines (lines beginning with the number sign [#]), non-indented lines should begin with a keyword such as **FEATURE** or **INCREMENT**. Because of email/fax limitations, extra-long lines of the license key might have been inadvertently wrapped to a new line. If a non-indented line begins with a character other than a number sign (#) or a **FEATURE** or **INCREMENT** keyword, it is likely that an extra-long line has been incorrectly wrapped and that the segment belongs at the end of the previous line. Make sure that you review your license key for these errors. If the key does contain an error, the software will not be licensed.

---

4. **Save the license file.** Click **Next** to save the license file in the directory where you have installed the software. The licensing wizard recognizes the installation location and generates an appropriate path: `RSI-DIR\license\license.dat`.

---

### Note

If you receive a message that there is an existing license file, save the existing file under a different name before proceeding. While the new license usually contains information for all currently licensed products, save the old file as a safeguard against destroying license information. Run the license wizard again to save the new license file in the default location.

---

5. **Exit the licensing wizard.** Click **Finish** to save the license file.

---

### Note

If you need to save the license file in a directory other than the default `RSI-DIR\license\license.dat`, you must set an environment variable pointing to the `license.dat` file before starting the software or the license

manager. See “[Saving the License File in an Alternative Location](#)” on page 46 for instructions.

---

**Note**

If you encounter a problem, see “[Node-Locked Licenses \(Windows\)](#)” on page 107 for troubleshooting information.

---

## Floating Licensing

With a floating or server-based node-locked license, you need to start the license server before RSI products can access a network license and run in licensed mode. You can also set up your system so that the license manager is automatically started when your system is booted.

The license manager needs to be started only on the designated license server machine, not on separate license client machines accessing the IDL licenses from the network. However, client machines do need to be set up to access the RSI software and licensing.

### 1. Install the License Server

The license server is a custom install option in the software product installation for Windows. You must install the license server on the Windows 2000 or XP machine that will be the license server machine.

---

**Note**

Carefully consider the machine you have chosen as your license server machine before saving your license file and starting the license manager. Since “client” machines will be sending requests for licenses to the “server” machine, the ability of client machines to access the license manager software depends on the reliability of the server machine and the network connection to that machine. Therefore, the machine chosen as the server must be one that has a history of reliable operation and one that is running most of the time.

---

If you are installing the license server on the same machine with IDL, check the Network License Server option during your software installation.

If you are installing the license server on a different machine, or if the network license server was not installed during your software installation, you can install it by running `setup.exe` from the `RSI\FlexLM` directory on the IDL CD-ROM.

---

**Note**

After installing the license server files, you will still need to configure and start the license server as described later in this section.

---

## 2. Save the License File

Your license key will be sent to you via email or fax. If you have not received your license key, see [“Requesting a License”](#) on page 30.

If your license key arrived via email, you can save the email message to a file so that the licensing wizard can import it. If your information was faxed to you or you prefer to enter the text directly into the licensing wizard, continue with the next section.

To save the license key to a file:

1. From your email application, save the license key email anywhere on your system as a text-only file.
2. With a plain text editor such as Notepad, remove any lines that appear before and after the actual license information, keeping the comment lines that begin with the “#” character.
3. Either save the text file or copy the edited license information text to the Windows clipboard. For an example of a license key, see [“Floating License”](#) on page 20.

## 3. Enter the License Key

To enter your license key:

1. **Start the IDL Licensing Wizard.** On your designated license server machine, click the Windows **Start** button, and select **Programs → RSI IDL 6.2 → License**.
2. **Display the Permanent Licensing dialog.** Select **Permanent** and then **License** from the licensing wizard dialogs
3. **Enter your license file.** Paste the text of the license key into the dialog, or select **Browse** to select the license file that you have saved on the designated license server machine. If you paste in your license key, remove any header lines that are included in the file but keep the comment lines that begin with the “#” character. If you have received your license key via fax or other hardcopy method, type the information directly into the text window.

---

### Note

The license key consists of non-indented lines, indented lines, and blank lines. Besides the comment lines (lines beginning with the number sign (#)), non-indented lines should begin with a keyword such as **SERVER**, **DAEMON**, **FEATURE**, or **INCREMENT**. Because of email/fax limitations, extra long lines of the license key might have been inadvertently wrapped to a new line. If a non-indented line begins with a character other than a number sign (#), or a word other than a keyword (**SERVER**, **DAEMON**, **FEATURE**, **INCREMENT**, etc.), it is likely that an extra-long line has been incorrectly wrapped and that the segment belongs at the end of the previous line. Make sure that you review your license key for these possible errors. If such an error is not corrected, the software will not be licensed.

---

4. **Save the license file.** Click **Next** to save the license file in the directory where you have installed the software. The licensing wizard recognizes the installation location and generates an appropriate path: `RSI-DIR\license\license.dat`.

---

**Note**

If you receive a message that there is an existing license file, save the existing file under a different name before proceeding. While the new license usually contains information for all currently licensed products, save the old file as a safeguard against destroying license information.

---

5. **Exit the licensing wizard.** Click **Finish** to save the license file.

---

**Note**

If you need to save the license file in a directory other than the default `RSI-DIR\license\license.dat`, you must set an environment variable pointing to the `license.dat` file before starting the license manager. See [“Saving the License File in an Alternative Location”](#) on page 46 for instructions.

---

---

**Note**

If you have other software that is using the Macrovision FLEXlm license manager, you might want to combine the RSI license file with the existing ones. See [“Multiple Applications Using the Same License Server”](#) on page 43 for options and instructions.

---

## 4. Configure the License Server

After entering and saving the license file, you must start the license server on your server machine. Included with your installation is a graphical interface for configuring the license manager, the LMTools utility. With this utility, you can configure, start, stop, and monitor the license manager.

1. **Open LMTOOLS.** Click **Start** → **Programs** → **RSI IDL 6.2** → **Network License Server** → **LMTools**. The **LMTools** dialog appears.
2. **Check for existing license managers.** The license server installation created a service named RSI Flexlm License Server. On the **LMTools** dialog’s **Service/License** tab, select **Configuration using Services**, and click the **Config Services** tab. If more than one service is listed, the potential exists for conflict between the license manager services. See [“Multiple Applications Using the Same License Server”](#) on page 43 for options and instructions.

---

**Note**

If you are upgrading the license server from a previous installation, see [“Upgrading the Network License Server from a Previous Installation”](#) on page 47.

---

3. **Change configuration options if desired.** You can change certain options on the **Config Services** tab by doing the following:
  - Specify a path and a filename for the FlexLM licensing log file and click **Open**. (You can use the **View Log...** button to view the contents of the log or the **Close Log** button to stop logging contents to this file.)
  - Click to select **Use Services**, and click to select **Start Server at Power Up**.
4. **Save any configuration changes.** Click **Save Service** and answer **Yes** to save your configuration.

## 5. Start the License Manager

You can start the license manager from the LMTools utility.

1. Select **Start** → **Programs** → **RSI IDL 6.2** → **Network License Server** → **LMTools**. The **LMTools** dialog appears.
2. Click the **Start/Stop/Reread** tab.
3. Make sure the name of your service is highlighted, and click **Start Server**.

### Note

If you receive a message that the service is already started, click **Stop Server** to stop it and then click **Start Server** to restart it with the new licensing configuration.

4. Click the window's close button exit the LMTools utility.

For more information on license-manager utilities, see [“Working with the License Server”](#) on page 41.

## 6. Configure Clients to Access the License Server

To allow network access to a license manager installed on a server, the license client machines must set up the client environment to use the license server or have access to a copy of the license file used by the license manager. RSI recommends having a local installation of your RSI product on each client machine and setting the client environment to use the license server. See the following instructions for your platform: [Windows 2000](#) or [Windows XP](#).

### Windows 2000

Complete the following steps for each client machine:

1. Select **Start** → **Settings** → **Control Panel** and double-click the **System** icon.
2. Click the **Advanced** tab and then click **Environment Variables**. Click the **New** button below the System Variables box and enter the following in the **New System Variable** dialog:
  - A. In the **Variable Name** field, type `LM_LICENSE_FILE` in uppercase letters.

- B. In the **Variable Value** field, enter your server's *port@host* value: for example, 1700@hal. This information is in your license file. The port number is the last number on the SERVER line. The host name immediately follows SERVER.

**Note**

---

If LM\_LICENSE\_FILE has already been defined for another software product, the definition of this license file can be appended using a semi-colon (;) as the delimiter. For example: C:\license\mylicense.dat;1700@hal

---

3. Save the settings by clicking **OK**, **OK**, and **OK**.

Alternatively, you can place a copy of the server's `license.dat` file in the `\rsi\license` directory on your client machine. If this directory does not exist, you need to create it (e.g., as `C:\rsi\license`).

## Windows XP

Complete the following steps for each client machine:

1. **Access the System Control Panel.** Select **Start** → **Control Panel**, select the **Performance and Maintenance** category, and select the **System** icon.
2. Select the **Advanced** tab, and click the **Environment Variables** button.
3. **Enter a new system variable.** Click the **New** button below the System Variables list and enter the following information:
  - A. In the **Variable Name** field, enter `LM_LICENSE_FILE`.
  - B. In the **Variable Value** field, enter your server's *port@host* value: for example, 1700@hal. This information is in your license file. The port number is the last number on the SERVER line. The host name immediately follows SERVER.

**Note**

---

If LM\_LICENSE\_FILE has already been defined for another software product, the definition of this license file can be appended using a semi-colon (;) as the delimiter. For example: C:\license\mylicense.dat;1700@hal

---

4. Save the settings by clicking **OK**, **OK**, and **OK**.

Alternatively, you can place a copy of the server's `license.dat` file in the `\rsi\license` directory on your client machine. If this directory does not exist, you need to create it (e.g., as `C:\rsi\license`).

## Customizing Floating Licenses

For information on customizing floating licenses, see [Appendix C, “Customizing Your Floating Licenses”](#).



## Working with the License Server

A license server support utility, LMTools, is provided to control the operation of the license server. For information on setting up the license manager, see “[Configure the License Server](#)” on page 38.

### Starting and Stopping the License Manager

With the LMTools utility, you can easily start, stop and see the status of the license manager. To open the LMTools utility, select **Start** → **Programs** → **RSI IDL 6.2** → **Network License Server** → **LMTools**. The LMTools dialog appears.

- **Starting the license manager** — click the **Start/Stop/Reread** tab, select the name of the license manager service, and click **Start** to start the license manager.
- **Monitoring the license manager** — click the **Server Status** tab to see the current operational status of the license manager.
- **Stopping the license manager** — click **Stop** at the **Start/Stop/Reread** tab to disable the license manager. Your software will run only in seven-minute demonstration mode without an available license.

### Removing the License Manager Service

To remove the license manager service, open the LMTools utility by selecting **Start** → **Programs** → **RSI IDL 6.2** → **Network License Server** → **LMTools**. Select the name of the license manager service on the **Config Services** tab and click **Remove Service**.

#### Note

---

This command removes the license manager service and should not be used to stop the service. To stop the service, see “[Starting and Stopping the License Manager](#)” on page 41.

---

### Reclaiming an Unused License

If a licensed user is running IDL when the machine crashes, that user’s license might fail to return to the server. In this case, the license is not available to other users. The `lmremove` command lets the system administrator remove a single user’s license for a specified feature and return the license to the pool of available licenses.

#### Note

---

The `lmremove` command does not permanently free licenses from IDL sessions that are currently active or in an idle state.

---

To free the license:

1. **Find the `lmutil` program.** Open a DOS-based Command Prompt window from the server machine and change the directory to access the license manager utility by typing the following at the prompt:

```
cd RSI-DIR\Flexlm
```

Enter `lmutil` at the prompt to access the utility program. A list of possible commands is displayed.

2. **Gather the information necessary to remove the license.** Review the license manager status by entering the following at the command prompt:

```
lmutil lmstat -c RSI-DIR\license\license.dat -a
```

This command displays available licenses and which users have licenses checked out. An example of `lmstat -a` output follows:

```
robin hal7 josh (v6.2) (hal7/1700/395), start Mon 10/12 4:34,
# licenses
```

The format of this line is:

```
user host display (version) (host/port/license handle),
start_date, available_licenses
```

Note the user, host, and display values.

3. **Remove the unused license.** Use the following to remove a license:

```
lmutil lmremove -c RSI-DIR\license\license.dat feature user
host display
```

For example (enter this command as one line):

```
lmutil lmremove -c C:\RSI\license\license.dat idl robin hal7
josh
```

where `idl` is the *feature*, `robin` is the *user*, `hal7` is the *host*, and `josh` is the *display*. Other feature values for RSI products appear in [Table 2-2](#).

RSI Software Product	Feature Value
IDL	idl
IDL Runtime	idl_rt
IDL Student	idl_student<version>
IDL with the Wavelet Toolkit	idl_wavelet
IDL DataMiner	idl_dm
IDL GIF	idl_gif
IDL MPEG	idl_mpeg
IDL TIFF LZW	idl_tifflzw

Table 2-2: Feature Values for `lmremove`

RSI Software Product	Feature Value
IDLffDicomEx	idl_dicomex_rw
Right to Distribute	devkit
ENVI	envi, envi_flash, envi_nitf
ION Script	ion_script
ION Java	ion_java
RiverTools	idl_rivertools
Noesys	noesys, noesysplus
VIP	vip

Table 2-2: Feature Values for *lmremove* (Continued)

4. **Verify that the license has been removed.** You can check to make sure the license was freed by typing the following at the DOS command prompt:

```
lmutil lmstat -c RSI-DIR\license\license.dat -a
```

The license you removed should no longer appear in the list of licenses checked out.

If the license manager gives an error message when starting, see [“License Manager Startup”](#) on page 115.

## Multiple Applications Using the Same License Server

IDL’s network license server facility is provided by the FLEXible License Manager (FLEXlm), a product of Macrovision Software. Since this license manager is not unique to IDL, the possibility exists that you need to run software from two or more software vendors that all use FLEXlm. In this case, the potential for license server conflict exists. You have the following options if all products using FLEXlm are installed on the same license server:

- Combine all license files into a single license file
- Create unique license manager services for each product

### Combining License Files

If an RSI product and other vendor products also using FLEXlm will all be using the same license server machine to administer licenses, and if all of the vendor license files are compatible, you can combine the license files in a single license file.

Different FLEXlm vendor licenses are compatible for combination if the LMHostid value on the SERVER line for each file is exactly the same. For example, if the SERVER line in two different vendor license files are the following:

```
SERVER server1.acme.com 12345678 1700
```

and

```
SERVER server1 12345678 1800
```

you can combine the licenses into a single license file using either of the SERVER lines above, because the third item is the same in both (12345678).

---

**Note**

Manually combining the information from multiple separated RSI `license.dat` files that contain a SERVER line will invalidate the license and prevent the license manager from running. The newest version of an RSI product license file will normally work with previous versions of the supported products.

---

After shutting down the license servers, use a text editor to create a single license file. In this single license file, combine all license files by taking the SERVER lines from any *one* license file and adding *all* the DAEMON, FEATURE, FEATURESET, and INCREMENT lines from *all* of the license files.

Multiple copies of this combined license file can be placed in the locations required by the various software vendors. Alternatively, a single copy of the license file can be located in any convenient location, in which case each client machine must set the LM\_LICENSE\_FILE environment variable to point to it. For more information, see [“Configure Clients to Access the License Server”](#) on page 39.

When you have finished editing the license file and saved it in the appropriate locations, restart the license manager with the *most recent* version of `lmgrd` that you have installed. To determine the version of `lmgrd.exe`:

1. Launch a MS-DOS command prompt.
2. Change directory (use the `cd` command) to `RSI-DIR\Flexlm`, where `RSI-DIR` is the main installation directory.
3. Enter the following command at the prompt:

```
lmgrd -version
```

If an older version of `lmgrd` is used, the license manager from the product with a more recent `lmgrd` will not operate correctly.

---

**Note**

Changes to an altered license file will not take effect until the license server program is restarted using that license file.

---

## Configuring Unique FLEXlm License Manager Services on the Same Server

As an alternative to combining the license information from multiple vendors licenses and running a single instance of the FLEXlm license manager service, a separate instance of the

FLEXlm license manager service (with a unique name) can be installed and started for each separate vendor's license file.

Using separate instances of the FLEXlm license manager service with separate vendor licenses requires administering multiple services and license files. However, multiple license manager services and separate vendor license files let the system administrator stop and start FLEXlm services freely for particular vendors without regard for other vendors' FLEXlm services running on that same system.

### Warning

---

Be certain that only one instance of the FLEXlm license manager will start on the server machine with respect to any RSI product license file. If an instance of FLEXlm license manager service is already running for an RSI product on this same license server machine, installing a second instance of the FLEXlm service for an RSI product under a different name can cause a conflict when Windows is loaded. (To resolve such a conflict, quickly stop all but one of the conflicting FLEXlm services immediately after logging on to that Windows license server machine.)

---

After verifying that there is not already an RSI product-configured license manager service running on your server machine, you can configure a uniquely named instance of the license manager service for RSI products to avoid conflict with other vendors' license managers. To install a unique instance of the FLEXlm license manager for an RSI product license file:

1. Confirm that your updated RSI product license is already properly installed on the license server machine.
2. Select **Start** → **Programs** → **RSI IDL 6.2** → **Network License Server** → **LMTools**. The **LMTools** dialog appears.
3. Select the **Config Services** tab and enter a new (unique) FLEXlm service name in the **Service Name** field. By default, the FLEXlm license manager service is called "FLEXlm License Manager." If the name "FLEXlm License Manager" is configured and already being used for another vendor's product license file, we recommend using the name "RSI FLEXlm License Manager" instead.
4. Enter the paths to the RSI product's `lmgrd.exe` (located in `RSI-DIR\FlexLM`) and `license.dat` (located in `RSI-DIR\license`) files. If not already created, the Debug Log File, typically saved in the license directory, will be created when the license manager is started. The **Browse** buttons can help to ensure that the file path entered is valid.
5. Select the **Use Services** and the **Start Server at Power-Up** check boxes.
6. Start the newly named license manager. Select the **Start/Stop/Reread** tab, select the name of the updated service, and start the service by clicking the **Start Server** button.
7. Click the window's close button to exit the LMTools utility.

**Note**

If you encounter any problem, see “[Licenses Requiring a License Server](#)” on page 110 or “[License Manager Startup](#)” on page 115 for troubleshooting information.

## Saving the License File in an Alternative Location

RSI strongly recommends saving your license file with the default path and filename: *RSI-DIR\license\license.dat*, where *RSI-DIR* is the directory in which your RSI product is installed. If you put your license file in this directory, you do not have to redefine any environment variables.

If you choose a location other than *RSI-DIR\license\license.dat* for the license file, it must be accessible to RSI software products that you have installed on your machine.

Therefore, you must define the environment variable `LM_LICENSE_FILE` to point to the actual path of the license file prior to using your software. For example, if you save your license file as `C:\RSI\mylicensefiles\license.dat`, RSI products will not run properly until you define the `LM_LICENSE_FILE` variable.

**Note**

If `LM_LICENSE_FILE` has already been defined for another software product, the definition of this license file can be appended using a semi-colon (;) as the delimiter. For example:

```
C:\license\mylicense.dat;1700@hal
```

## Windows 2000

1. Click **Start** → **Settings** → **Control Panel** and double-click on the **System** icon.
2. Click the **Advanced** tab, and then click **Environment Variables**. Click the **New** button below the System Variables box and enter the following in the **New System Variable** dialog:
  - A. Type, in uppercase letters, `LM_LICENSE_FILE` in the **Variable Name** field.
  - B. Type the path to the license file in the **Variable Value** field: in this example, `C:\RSI\mylicensefiles\license.dat`. Replace this value with the actual path to your license file.
3. Click **OK**, **OK**, and **OK**.

## Windows XP

1. **Access the System Control Panel.** Click **Start** → **Control Panel**, select the **Performance and Maintenance** category, and select the **System** icon.

2. Select the **Advanced** tab, and click the **Environment Variables** button.
3. **Enter a new system variable.** Click the **New** button below the System Variables list.
  - A. In the **Variable Name** field, type `LM_LICENSE_FILE`.
  - B. In the **Variable Value** field, type the path to the license file. For example:  

```
C:\RSI\mylicensefiles\license.dat
```
4. Click **OK**, **OK**, and **OK**.

## Upgrading the Network License Server from a Previous Installation

When the RSI network license server is installed on Windows, in addition to installing the license server files (IDL 6.2 uses FLEXlm version 9.2), the installer automatically configures an NT service named RSI FLEXlm License Manager, using default file settings. The installed license manager service is not configured to automatically start at boot time. (For instructions on how to configure the RSI FLEXlm License Manager service to start at boot time, see [“Configure the License Server”](#) on page 38.)

---

### Note

If a previously configured RSI license manager service with a different name (e.g., FLEXlm License Manager) is running on the same server machine that will be administering your IDL 6.2 license file, RSI recommends that you stop, and then disable or remove, the previously configured RSI license manager service to avoid a potential system conflict that would be caused by simultaneously running two RSI license manager services on one machine. Additionally, using the IDL 6.2 default RSI FLEXlm License Manager configuration as your RSI license manager service will make it easier to update the RSI license manager service for future releases of RSI products.

---

To manually stop and remove the old RSI license manager service, do the following:

1. Launch the LMTools utility by selecting **Start** → **Programs** → **RSI IDL 6.2** → **Network License Server** → **LMTools**.
2. Select the **Config Services** tab.
3. From the **Service Name** pull-down list, select the older RSI license manager service name that you would like to remove (e.g., FLEXlm License Manager).

---

### Note

The operational status of configured NT services can be identified within the Services control panel utility. If the **Status** field reads “Started,” then the service is currently running.

---

**Note**

---

If the machine is serving licenses for other products that use the FLEXlm license manager service, and you are unsure which is the unneeded RSI license manager service, contact your system or network administrator for assistance.

---

4. Select the **Stop/Start/Reread** tab. Notice that the selected license manager service is highlighted.
5. Click **Stop Server** to stop the service. If the selected service is not currently running, then clicking **Stop Server** displays a **Status** field message that verifies that LMTools is unable to stop the selected service (e.g., “Unable to Stop Server”).
6. After stopping the service, return to the **Config Services** tab and click **Remove** to complete the removal of the old RSI license manager service.



# Running IDL under Windows

To run IDL under Microsoft Windows, do one of the following:

- Select **Start** → **Programs** → **RSI IDL 6.2** → **IDL**.
- Double-click the **IDL 6.2** desktop icon.
- Enter one of the following commands at the DOS Command prompt, from the *RSI-DIR\idl62\bin\bin.x86* directory:

Command	Description
<code>idlde</code>	Start IDL Development Environment.
<code>idlrt &lt;filename&gt;</code>	Run <filename> in the runtime version of IDL.
<code>idlrt -vm=&lt;filename&gt;</code>	Run <filename> in the IDL Virtual Machine.

Table 2-3: IDL Startup Commands for Windows

## Running the IDL Virtual Machine under Windows

To run a `*.sav` file in the IDL Virtual Machine, you can drag and drop the `*.sav` file onto the IDL Virtual Machine desktop icon, launch the IDL Virtual Machine and open the `*.sav` file, or launch the `*.sav` file in the IDL Virtual Machine from the command line.

To use drag and drop:

1. Locate and select the `*.sav` file in Windows Explorer.
2. Drag the file icon from the Windows Explorer list and drop it onto the **IDL Virtual Machine 6.2** icon that has been created for you on the desktop.
3. Click anywhere in the window to dismiss the IDL Virtual Machine splash screen and run the `*.sav` file.

To open a `*.sav` file from the IDL Virtual Machine:

1. Do one of the following to launch the IDL Virtual Machine and display the IDL Virtual Machine window:
  - Select **Start** → **Programs** → **RSI IDL 6.2** → **IDL Virtual Machine**
  - Double-click the **IDL Virtual Machine 6.2** desktop icon
  - Click **Run VM** from the IDL installation CD-ROM's splash screens
2. Click anywhere in the window to dismiss the IDL Virtual Machine splash screen and display the file selection menu.

3. Locate and select the `*.sav` file, and double-click or click **Open** to run it.

To run a `*.sav` file from the command line prompt:

1. Open a command line prompt. Select **Run** from the **Start** menu, and enter `cmd`.
2. Change directory (`cd`) to the `RSI-DIR\bin\bin.x86` directory
3. Enter the following at the command line prompt:

```
idlrt -vm=<path><filename>
```

where `<path>` is the path to the `*.sav` file, and `<filename>` is the name of the `*.sav` file.

---

**Note**

If a license is available on the machine running the `*.sav` file, double-clicking the `*.sav` file will run it in the licensed runtime version of IDL. To force the `*.sav` file to run in the Virtual Machine, either drag and drop the `*.sav` file on the IDL Virtual Machine icon or run it from the command line with the `-vm` argument.

---

## Running IDL Runtime Programs under Windows

To run a `*.sav` file in the runtime version of IDL, do either of the following:

- Double-click the runtime application `*.sav` file to launch the application. If an IDL license is not available, the application will run in the IDL Virtual Machine.
- Enter `idlrt <path><filename>.sav` at the DOS Command prompt, where `<path>` is the path to the `*.sav` file, and `<filename>` is the name of the `*.sav` file. The application contained in the `*.sav` file runs in the runtime version of IDL.

---

**Note**

When a `*.sav` file is run with the `idlrt` command on a machine without an IDL license, it will run in the IDL Virtual Machine.

---



## Chapter 3

# Installing and Licensing IDL 6.2 for UNIX

This chapter covers the following topics:

---

Introduction .....	52	Setting Up the IDL Environment .....	77
Installing IDL for UNIX .....	54	Running IDL under UNIX .....	82
Licensing IDL for UNIX .....	58		

# Introduction

## Before You Begin

- **Check your OS version** — make sure that you are running on one of the supported UNIX versions listed in [“Hardware and Operating System Requirements for IDL 6.2”](#) on page 13, or a UNIX version that is binary-compatible with one of these versions.
- **You must be running X Windows** — the IDL installation program has a Motif graphical user interface and requires you to be running X Windows. If you cannot install from a machine running X Windows, see the instructions in the `/install/no_gui` directory on your IDL CD-ROM.

## Recommended Steps for Installing and Licensing IDL for UNIX

The steps required to install and license IDL depend upon the type of license you will be using. RSI recommends you use the following steps when installing and licensing IDL.

### IDL Virtual Machine

The following steps are required to install the IDL Virtual Machine:

1. **Install IDL Virtual Machine.** See [“Installing IDL for UNIX”](#) on page 54.
2. **Set up the IDL environment for your machine.** See [“Setting Up Your Environment”](#) on page 58.
3. **Set up and run IDL Virtual Machine.** See [“Running the IDL Virtual Machine under UNIX”](#) on page 82.

For more information, see [“IDL Virtual Machine”](#) on page 18.

### Evaluation Licenses

1. **Install IDL.** See [“Installing IDL for UNIX”](#) on page 54.
2. **Request a license.** You might have already received an evaluation license key by email or fax. If you have not received it, contact your RSI sales representative to request an evaluation license.
3. **Set up the IDL environment for your machine.** See [“Setting Up Your Environment”](#) on page 58.
4. **Enter your license key.** See [“Evaluation Licensing”](#) on page 61.
5. **Set up and run IDL.** See [“Running IDL under UNIX”](#) on page 82.

## Personal Use Licenses

1. **Install IDL.** See [“Installing IDL for UNIX”](#) on page 54.
2. **Set up the IDL environment for your machine.** See [“Setting Up Your Environment”](#) on page 58.
3. **Request a license.** You might have already received your personal use license key by email or fax. If you have not received it, contact your RSI sales representative to request a personal use license.
4. **Enter your license key.** See [“Personal Use Licensing”](#) on page 62.
5. **Set up and run IDL.** See [“Running IDL under UNIX”](#) on page 82.

## Node-Locked or Floating Licenses

1. **Install IDL.** See [“Installing IDL for UNIX”](#) on page 54.

### Note

---

If you will be installing the license server on a different machine, see also [“Install the License Server Files”](#) on page 63.

---

2. **Set up the IDL environment for your machine.** See [“Setting Up Your Environment”](#) on page 58.
3. **Request a license.** You might have already received your RSI product license information by email or fax. It provides your product installation number and additional information about licensing your product. If you have not received it, see [“Requesting a License”](#) on page 59 to create a license request.
4. **Enter your license key.** See [“Node-Locked or Floating Licensing”](#) on page 63.
5. **Start the license manager.** See [“Start the License Server”](#) on page 66.
6. **Set up and run IDL for each client machine.** See [“Running IDL under UNIX”](#) on page 82.

# Installing IDL for UNIX

This section describes how to install and license IDL 6.2 for UNIX.

## System Requirements

The following are the system requirements for installing IDL 6.2 for UNIX.

Requirement	Description
Disk space	285 MB (minimal recommended disk space for a default installation)
Operating system	See “ <a href="#">Hardware and Operating System Requirements for IDL 6.2</a> ” on page 13 for a complete listing of supported UNIX platforms
Network interface card	Product licensing procedures require a system equipped with TCP/IP addressable network communication card (for example an ethernet card) and TCP/IP service

*Table 3-1: IDL 6.2 UNIX System Requirements*

## Mount the IDL CD-ROM on Your System

Some platforms automatically mount the CD-ROM when you insert it into your CD-ROM drive. In some cases, you might need to create a `/cdrom` directory. In most cases, the IDL CD-ROM is mounted as the following:

```
/cdrom/idl_62
```

The following instructions work in most cases for the platform listed. Consult your operating system documentation for instructions on mounting a CD-ROM on your system.

### Note

Replace `CDROM-Dev` with the actual name of the CD-ROM drive on your system. Type mounting commands as a single line. On most systems, you must have root permissions to mount the CD-ROM.

Platform	CD Mounting Command	Typical CDROM-Device Name
HP-UX	<code>mount -r -F cdfs CDROM-Dev /cdrom</code>	<code>/dev/dsk/clt2d0</code>
IBM AIX	<code>mount -r -v cdrfs CDROM-Dev /cdrom</code>	<code>/dev/cd0</code>
Linux	<code>mount -o ro -t iso9660 CDROM-Dev /mnt/cdrom</code>	<code>/dev/cdrom</code>
SGI IRIX	(automatically mounted as <code>/CDROM</code> )	
SUN Solaris	(automatically mounted by volume manager as <code>/cdrom/idl_62</code> )	

Table 3-2: CD-ROM Mounting Commands

Remember how your CD-ROM has been mounted and use this path in place of *CDROM-PATH* in the installation instructions.

## Run the IDL Installer

To install IDL 6.2, complete the following steps:

### Note

If you are installing IDL in a public directory, make sure you have root or similar permissions before running the installation script.

- Execute the installation script.** Enter the following command at your UNIX prompt:
 

```
/bin/sh /CDROM-PATH/xinstall.sh
```

 where *CDROM-PATH* is the path to your CD-ROM drive.  
 The **Product Installation** dialog appears.
- Read and accept the license agreement.** To continue the installation, you must accept the terms of the RSI license agreement. Click **Yes** to continue.
- Choose IDL or IDL Virtual Machine.** You have the choice of installing either the full **IDL** application or a runtime **IDL Virtual Machine** version for running programs that are distributed as compiled `.sav` files. **IDL** is the default selection. See “[IDL Virtual Machine](#)” on page 18 for more information on the IDL Virtual Machine.
- Choose the installation directory.** The directory listed next to the **Set Directory** button is the directory under which the `idl_6.2` directory will be created. The default installation directory is `/usr/local/rsi`. To change the default, click **Set Directory**. If you do not have write permissions for the selected directory, it appears as gray text. The selected directory will be created for you if it does not already exist.

5. **Select the features to install.** Move the mouse pointer over each option to display information about that option. Select the check box next to each option you want to install.
6. **Select the platforms to install.** This defaults to the platform on which you are running the installation script. Select or deselect platforms by clicking on the check box next to the option. Select the appropriate platforms for any machines that will run IDL on your network. When installing on a 64-bit machine, both the 32- and 64-bit check boxes will be checked by default.
7. **Verify your selections.** When you have selected the installation directory, options, and platforms for your IDL installation and have made sure you have enough disk space, click **OK**.
8. **Begin the installation.** The **IDL Installation Summary** dialog displays the options you have selected. If the options shown in the dialog are correct, click **Install** to begin the installation process. If the options are not correct, click **Cancel** to return to the **Installation** dialog.
9. **Set up symbolic links.** Once the installation script has finished copying files to the installation directory, the **Product Environment** dialog appears prompting you whether or not to create symbolic links.

Symbolic links are shortcuts to the IDL executables that you can create in your home directory or in any directory you specify that users can execute to start IDL. If you want to create symbolic links, click **Create Links**. The **Product Links** dialog appears.

If you choose not to create symbolic links at this time, you can create them after installing IDL by doing one of the following:

- Use the `RSI-DIR/idl_6.2/bin/install` executable to create the symbolic links for you. `RSI-DIR` denotes the RSI product installation directory. You must execute this script from `RSI-DIR`. Enter the following commands to create the symbolic links:

```
cd RSI-DIR
idl_6.2/bin/install
```

- Make note of the commands you will need to execute to manually create symbolic links. These commands are displayed at the end of the installation process.

If you choose not to create symbolic links, skip the next step.

10. **Choose the directory in which to create the symbolic links.** This can be your home directory or any other directory from which you want to start IDL. The default directory is `/usr/local/bin.`, which is commonly already in a user's `PATH` environment variable. To change from the default, click the **Set Directory** button. If you do not have write permissions for the selected directory, it will appear as gray text. The selected directory will be created for you if it does not already exist.
11. **Select to automatically start DICOM Network Services at boot time.** If you are installing the DICOM Network Services module, a dialog will ask if you want to



configure the network services to start automatically at boot time. If you are not installing this module, skip this step.

12. **Specify cgi-bin directory and Web path.** If you are installing ION Script, a **Script Web Server Configuration** dialog will prompt you for the location of your Web server's CGI executables directory. Enter these locations and click OK. Click **Cancel** if you want to skip this step. You can complete the ION Script configuration at a later time. See [“Manually Configuring Your UNIX Web Server”](#) in Chapter 1 of the *ION Script User's Guide* manual for more information.
13. **Specify Java Web Server directory and path.** If you are installing ION Java, a **Java Web Server Configuration** dialog will prompt you for the location of the Web server's HTML files and the hostname. Enter this information and click OK.

---

**Note**

Click **Cancel** if you want to skip this step. You can complete the ION Java configuration at a later time. See [“Manually Configuring Your Web Server”](#) in Chapter 1 of the *ION Java User's Guide* manual.

---

14. **Select to license IDL.** To license IDL now, click **Yes**. For licensing instructions, see [“Node-Locked or Floating Licensing”](#) on page 63. You can license IDL at a later time by typing `rsilicense` at the UNIX prompt. To license IDL at a later time, or to run IDL only in seven-minute demonstration mode, click **No**.

---

**Note**

If you are installing the IDL Virtual Machine, you will not be prompted to license IDL.

---

15. **Finish the installation.** The **Installation Complete** dialog reports any errors that were encountered during installation.

## Unmount the IDL CD-ROM from Your System

You can now unmount the CD-ROM using one of the following commands, where *CDROM-Device* is the name of your CD-ROM drive:

```
umount /CDROM-Device
```

or

```
eject /CDROM-Device
```

# Licensing IDL for UNIX

This section explains how to license IDL 6.2 under UNIX.

---

**Note**

Mac OS X users working from the command line can also use this information, with minor changes. For more information, see [“Licensing IDL for Macintosh”](#) on page 90.

---

## Setting Up Your Environment

Before running the licensing wizard, you must set up your environment. You can use predefined setup files included with IDL.

If you are using a license server installed on the same machine with IDL, use one of the following:

For C shell:

```
source RSI-DIR/idl_6.2/bin/idl_setup
```

For Korn shell:

```
. RSI-DIR/idl_6.2/bin/idl_setup.ksh
```

For Bash shell:

```
. RSI-DIR/idl_6.2/bin/idl_setup.bash
```

where *RSI-DIR* is the main installation directory for IDL.

If you are using a license server that you have installed on a different machine (as described in [“Install the License Server Files”](#) on page 63), use one of the following:

For C shell:

```
source RSI-DIR/idl_6.2/bin/license_setup
```

For Korn shell:

```
. RSI-DIR/idl_6.2/bin/license_setup.ksh
```

For Bash shell:

```
. RSI-DIR/idl_6.2/bin/license_setup.bash
```

where *RSI-DIR* is the main installation directory for the IDL license server.

---

**Tip**

To avoid typing the setup command at the beginning of every IDL session, include it in your `cshrc`, `.profile`, or `.bashrc` file. See [“Define IDL Environment Variables and Aliases”](#) on page 77 for instructions.

---

## Requesting a License

If you are licensing with an evaluation license, a personal use license, a node-locked license, or a floating license, you need a license key from RSI or your distributor. For node-locked and floating licenses, the license key is created using information from the machine on which you will be running the license server. A built-in licensing program has been created to simplify the request and installation of your license file.

---

### Note

You do not need to use the licensing wizard to request a license if you are using an evaluation license or a personal use license. For more information, see [“Evaluation License”](#) on page 18 or [“Personal Use License”](#) on page 19

---

---

### Note

The electronic registration program cannot retrieve the correct information unless you have a TCP/IP addressable network communication card (for example, an ethernet card) and a TCP/IP service set up on your system.

Note also that you must run the licensing wizard from the license server machine or the node-locked machine, on which you have installed your RSI software. This ensures proper generation of the server LMHostid and Nodename for your license file.

---

**You must have write permissions on the licensing directory** to request an IDL license. You will need write permissions for the *RSI-DIR/license* directory in order to save the license request file, *rsi\_request.txt*, created by the license wizard.

## Preparing a License Request

To prepare a license request:

1. **Set up your environment.** See [“Setting Up Your Environment”](#) on page 58 for instructions.
2. **Start the licensing wizard.** To start the licensing wizard, enter `rsilicense` at the UNIX prompt
3. **Begin the license request process.** Select **Permanent** on the **Product Licensing** dialog.
4. **Prepare a license request file.** Click **Request** to prepare a license request file to submit to RSI. The licensing wizard guides you through the creation of a license request file that will contain all the information necessary for RSI to create a valid license file for your software installation.
5. **Enter your information.** Fill in the following text fields in the **Permanent Licensing** dialog:

- **Contact Person** — enter the name of the person to whom the license file should be sent.
  - **Email Address** — enter the email address of the contact person.
  - **License Number** — enter the installation number found on your product installation form. You should have already received this form from RSI by email or fax. If you have not received it, contact RSI technical support. See “[Contacting RSI](#)” on page 12 for more information.
  - **Site Notice** — enter the name that you want to appear when you launch the software. The name you select will replace *<your site notice>* in the following statement: “licensed for use by *<your site notice>*.” This name is typically that of your company, department, or project.
6. **Select the license type.** Select either **Node Locked** or **Floating**. The license wizard automatically generates the correct Hostname and LMHostid. Do not modify these values.
  7. Click **Next** to continue.
  8. **Review your license request.** If the information is correct, click **Next** to save the license request file and proceed. If the information is incorrect, edit it in the text window or click **Back** to make any corrections.
  9. **Send the license request file.** Click **Next** to send the license request file to RSI. If you did not purchase your software directly from RSI, alter the email address and send the file to your local distributor.

---

**Note**

If you cannot send email from your machine or if you receive a message stating that an attempt to send the email was unsuccessful, see “[Manually Sending a License Request](#)” on page 60. A license file will be sent to you at the email address or fax number you supply.

---

10. **Exit the license wizard.** Click **Finish** to exit the license request program.

If you do not receive a license file or any confirmation that the request was received, see “[Manually Sending a License Request](#)” (following) to re-send the request.

## Manually Sending a License Request

To manually send a license request, select the appropriate step below and email your request to [register@RSInc.com](mailto:register@RSInc.com) or fax the text of the request file to RSI at 303-786-9909.

- **From the license wizard** — select **Back** to display the request file. Copy all of the request information into an email message or fax this text to RSI.
- **Outside of the license wizard** — copy the request file, located in `RSI-DIR/license/rsi_request.txt`, and send it by fax or email.

**Note**

If you did not purchase your software directly from RSI, send the file to your local office or distributor.

## Evaluation Licensing

After installing IDL, use the licensing wizard to install your evaluation license. If you do not have a license key, contact your RSI sales representative to request an evaluation license.

**Note**

You must have write permissions on the licensing directory to license IDL. You will need write permissions for the *RSI-DIR/license* directory in order to save the `license.dat` file created by the license wizard.

1. **Set up your environment.** See [“Setting Up Your Environment”](#) on page 58 for instructions.
2. **Start the licensing wizard.** To start the licensing wizard, enter `rsilicense` at the UNIX prompt
3. **Access the Evaluation License dialog.** Select **Evaluation** on the **Product Licensing** dialog.
4. **Enter your license information.**
  - Select the product you wish to license from the drop-down list. Only installed products are displayed.
  - Enter the expiration date *exactly* as it appears on your registration form (e.g., 1-Sep-2005).
  - Enter the key code *exactly* as it appears on your registration form and click **Next**.
5. **Exit the licensing wizard.** Click **Finish**. IDL is now licensed.

**Note**

If you have saved your license file in a directory other than the default location, see [“Define the Path to the License File or License Server”](#) on page 78 for instructions on setting the `LM_LICENSE_FILE` path environment variable.

When your trial period expires, an error message stating this fact appears when you start IDL. Until relicensed, IDL will operate only in seven-minute demonstration mode.

6. **Run IDL.** See [“Running IDL under UNIX”](#) on page 82 for information on how to run IDL once your license is installed and your IDL environment has been set up.

**Note**

If you encounter any problem, see [“Evaluation Licenses”](#) on page 103 for troubleshooting information.

## Personal Use Licensing

**Note**

This kind of licensing is available only for Linux among the supported UNIX versions.

After you have requested a personal use license from RSI or your distributor, your personal use license file will be sent to you via email or fax. If your file is sent via email, you can save the email message as a file, removing any header lines before the beginning of the actual license information. If you receive your license file via fax, you will have to enter the information into the text window of the license wizard as described below.

**Note**

You must have write permissions on the licensing directory to license IDL. You will need write permissions for the *RSI-DIR/license* directory in order to save the *license.dat* file created by the license wizard.

1. **Set up your environment.** See [“Setting Up Your Environment”](#) on page 58 for instructions.
2. **Start the licensing wizard.** To start the licensing wizard, enter `rsilicense` at the UNIX prompt
3. **Choose the license type.** Select **Permanent** on the **Product Licensing** dialog
4. **Request or install a license.** If you have not yet received your license, click **Request** and proceed to [“Preparing a License Request”](#) on page 59. If you have your license information, click **License**.
5. **Enter your license key.** **Browse** for the license key file you have saved, or copy the license key text from the license file email and paste it into the dialog. If you paste in your license key text, remove any header lines that are included in the file, but keep the comment lines that begin with the “#” character. If you have received your license key by fax or another hardcopy method, type the information directly into the text window. For an example of a correctly formatted personal license key, see [“Personal Use License”](#) on page 19.
6. **Save the license.** Click **Finish** to save the license text and exit the licensing wizard.
7. **Run IDL.** See [“Running IDL under UNIX”](#) on page 82 for information on how to run IDL once your license is installed and your IDL environment has been set up.

## Node-Locked or Floating Licensing

To license your RSI product using a software-based node-locked license or a floating license, you need to enter your license key. After you have completed and sent your license request file, as described in “[Requesting a License](#)” on page 59, your license file will be sent to you via electronic mail or fax. If your file is sent via email, you can save the email message as a file, removing any header lines before the beginning of the actual license information. If you receive your license file via fax, you will have to enter the information into the text window of the license wizard as described below.

### Note

You must have write permissions on the licensing directory to license IDL.

## 1. Install the License Server Files

If you are intending to run the license server on the same machine as IDL, the required binaries have already been installed with IDL. You need to perform only Step 3 in the following instructions.

If you are intending the license server to run on a different machine from IDL, you need to install it on that platform. The license server binaries are included on your CD-ROM in the `/flexlm` directory. To install the license server binaries:

1. **Mount the IDL CD-ROM on the license server system.** Use the mounting instructions located in “[Mount the IDL CD-ROM on Your System](#)” on page 54
2. **Create the RSI directory.** On the server machine, the default location for all of the files is `/usr/local/rsi`. This path will be referenced as *RSI-DIR* in the remaining instructions. You need to create this directory using the following command:

```
mkdir RSI-DIR
```

3. **Change directory to *RSI-DIR*.** Change to the directory you created in the previous step. For example:

```
cd /usr/local/rsi
```

4. **Uncompress and unpack the license server binaries.** There are a set of platform-independent binaries (the `flexlm.tar.Z` file) and a set of platform dependent binaries (the `f_platform.tar.Z` file). To uncompress and unpack them, use the following commands:

```
zcat /CDROM-PATH/flexlm/flexlm.tar.Z | tar xvf -
```

and

```
zcat /CDROM-PATH/flexlm/f_platform.tar.Z | tar xvf -
```

where *CDROM-PATH* is the path to your CD-ROM drive and *platform* represents the OS of the platform on which you are installing the binaries.

5. **Unmount the IDL CD-ROM.** Use the unmounting instructions located in “[Unmount the IDL CD-ROM from Your System](#)” on page 57

## 2. Save the License File

If your license key arrived via email, you can save the email message out to a file so that the licensing wizard can import it. Complete the following steps:

1. From your email application, save the license key email anywhere on your system as a file.
2. With any text editor, remove any lines that are not part of the actual license information, keeping the comment lines that begin with the “#” character. For an example of a license key, see “[Node-Locked License](#)” on page 19.
3. Copy the file to anywhere on the system you are running your RSI product (if this is a node-locked license) or to anywhere on the license server (if this is a floating license).

## 3. Enter the License Key

1. **Set up your environment.** See “[Setting Up Your Environment](#)” on page 58 for instructions.
2. **Start the licensing wizard.** To start the licensing wizard, enter `rsilicense` at the UNIX prompt
3. **Display the Enter License Text dialog.** Select **Permanent** and then **License** on the licensing wizard dialogs.
4. **Enter your license file.** Paste the text of the license file into the dialog’s text window, or select **Browse** to select the license file that you have saved on the license server. If you paste in your license file, remove any header lines that are included in the file, but keep the comment lines that begin with the “#” character. If you have received your license file via fax or another hard-copy method, enter the information directly into the text window.

---

### Note

Occasionally, email editors or text obtained from a Web browser can become corrupted by inadvertent line-wrapping or character replacement. Make sure that you review your license key for these possible errors. If such an error is not corrected, the software will not be licensed. For an example of a correctly formatted license key, see “[Node-Locked License](#)” or “[Floating License](#)” on page 20.

---

### Note

Be sure that the DAEMON line of the license file points to the `RSI-DIR/IDL_6.2/bin` directory, where `RSI-DIR` is the directory where you have installed your RSI software. If this is not the case, be sure to correct the license file path before proceeding.

---



5. **Save the license file.** Click **Next** to save the licensing information in a file named `license.dat` in the `RSI-DIR/license` directory. If you have installed your software in a directory other than the default, you must set the environment variables to point to the `license.dat` file before starting your RSI software or the license manager. See instructions for setting the `LM_LICENSE_FILE` environment variable in [“Define the Path to the License File or License Server”](#) on page 78.

---

**Note**

If you receive a message that there is an existing license file, save the existing file under a different name before proceeding. While the new license usually contains information for all currently licensed products, save the old file as a safeguard against destroying license information. Run the license wizard again to save the new license file in the default location.

---

6. **Install a script to start the license manager at boot time (optional).** You receive this prompt if your license file contains a `SERVER` line and if the server’s `LMHostid` matches the system’s `LMHostid`. You do not have to install the script. If you do not, the license wizard continues with the next dialog. If you do install it, the license wizard runs the license manager’s installation script (`lmgrd_install`) and then continues with the next dialog. Click **Yes** to install the script or **No** not to install it.
7. **Exit the licensing wizard.** Click **Finish**.

---

**Note**

If you have other software that uses Macrovision’s `FLEXlm` license manager, you might want to combine the RSI license file with the existing ones. See [“Multiple Applications That Use the Same License Manager”](#) on page 74 for instructions and options.

---

---

**Note**

RSI strongly recommends saving your license file with the default path and filename `RSI-DIR/license/license.dat`, for example, where `RSI-DIR` is the installation directory. If you put your license file in this directory, you do not have to redefine environment variables.

If you have saved the license file in a directory other than the default `RSI-DIR/license/license.dat`, you must set an environment variable pointing to the `license.dat` file before starting the license manager. See the section [“Define the Path to the License File or License Server”](#) on page 78 for instructions.

---

8. **Reboot the system.** You need to reboot your system if you have installed the script to start the license manager at boot time (see Step 6).

## 4. Start the License Server

This section describes how to start the license server. If you are using a node-locked or floating licenses, you must start the license server.

---

### Note

If you are upgrading to a new version of IDL, RSI recommends that you also upgrade the license server as well. For more information, see [“Upgrading the Network License Server from a Previous Installation”](#) on page 69.

---

---

### Note

If the license unit count on your license’s INCREMENT line is “0” or “uncounted,” then you do not need to start the license manager.

---

Once you have entered the license key, start the license manager by entering the following:

```
RSI-DIR/idl_6.2/bin/lmgrd [-c license_path]
```

where *RSI-DIR* is the directory where you have installed your RSI software and *license\_path* is the full pathname to the license file, including the license filename. The default license path is *RSI-DIR*/license/license.dat. If you have used this default location or have defined the LM\_LICENSE\_FILE environment variable (as described in [“Define the Path to the License File or License Server”](#) on page 78), it is not necessary to specify the -c *license\_path* option, although it is recommended to avoid ambiguity.

For information on other license manager functions, see [“Working with the License Server”](#) on page 69. If you receive an error message while trying to start the license manager, consult [“License Manager Startup”](#) on page 115 for possible solutions to your problem.

---

### Note

If you have more than a single FLEXlm license manager running on a server, conflicts might exist among the license managers. Before starting the license manager, see [“Multiple Applications That Use the Same License Manager”](#) on page 74 for more detailed information on customizing your license file.

---

---

### Note

Starting the license manager requires no special privileges. Note the potential security ramifications of running the license manager from the root account, since it can be started by any user. However, special privileges *are* required to *shut down* the license manager. See [“Shutting Down the License Manager”](#) on page 70 for more information.

---

## 5. Set Up the IDL Environment

Before you can run IDL, you must set up each user’s environment on the machine that will be running IDL. See [“Setting Up the IDL Environment”](#) on page 77 for instructions.

## 6. Run IDL

See “[Running IDL under UNIX](#)” on page 82 for information on how to run IDL once your license is installed and your IDL environment has been set up.

## Modifying the License File

The license file controls:

- Which products can run
- Which machines they can run on
- How many copies can run concurrently

The FEATURE lines of the license file determine which products are available. The SERVER lines define which machines the products run on. The number of copies of the product that can run concurrently is controlled by the number of license units available, as specified by either the FEATURE or INCREMENT lines.

## Sample License Files

The following is an example of what a license file look like. This example license file is built for the license server “hal”, which has the LMHostid “0000c09a23f0,” and the designated port number “1700.” This license has five floating licenses for UNIX machines.

The last line in the license file is the FEATURESET line, which ties all the FEATURE and INCREMENT lines together:

```
SERVER hal 0000c09a23f0 1700
DAEMON idl_lmgrd /usr/local/rsi/idl_6.2/bin
FEATURE idl idl_lmgrd 6.200 1-jan-0000 50 5BC6A081FA3009FA5673 \
  VENDOR_STRING="1234-1Acme Datawack Corp" ck=16
FEATURESET idl_lmgrd 96C31B1FB71BCAE9
```

---

### Note

The FEATURE line for the IDL floating license shows 50 license units. This is not an error. Each counted IDL license requires 10 license units (6 for Linux or Mac OS X) on the FEATURE or INCREMENT line. The number of license units is a platform-dependent scale factor times the number of licenses you own. For example, if you have 3 UNIX floating licenses, this field is set to 30.

---

## Viewing or Modifying the License File

To access the text of your license file through the license wizard, complete the following steps:

---

**Note**

You must be logged in as an administrator, or have write permissions on the licensing directory, to modify the license file.

---

**Locating the License File**

1. After installing your RSI software, open the licensing wizard by changing to your `RSI-DIR/idl_6.2/bin` directory and entering the following at the UNIX prompt:  

```
rsilicense
```
2. Select **Permanent** and **License** to display the license text file window. If your license file is in the default location, `RSI-DIR/license/license.dat`, it will appear in the text window. If you have saved the file in another location, click **Browse** to find it.

**Altering the License File**

You can modify only the following four data items in the license file:

- Hostnames (but not host IDs) on SERVER lines
- Port numbers on SERVER lines
- Pathnames on DAEMON lines
- Options file pathnames on DAEMON lines (note that it is not necessary to specify option file path names with FLEXlm v6 or later; IDL 6.2 for UNIX uses FLEXlm v9.2)

---

**Note**

If your IDL 6.2 installation is not located in the default location (`/usr/local/rsi/idl_6.2`), be sure to edit the DAEMON line of your license file to reflect the actual location of your `idl_6.2/bin` directory (e.g., `DAEMON idl_lmgrd /otherdir/rsi/idl_6.2/bin`).

---

**Warning**

Changing license file lines other than those discussed above will invalidate your license file, causing your IDL installation to run only in demonstration mode. Individually altering any FEATURE or INCREMENT lines destroys the file.

---

If you have multiple vendors using FLEXlm license management software, see [“Multiple Applications That Use the Same License Manager”](#) on page 74 for more detailed information on customizing your license file.

## Upgrading the Network License Server from a Previous Installation

If you are upgrading to a newer version of IDL, RSI recommends that you use the version of the FLEXlm license manager that is shipped with the latest version of IDL. IDL 6.2 includes FLEXlm version 9.2. Newer versions of FLEXlm support applications that were built to work with older versions of FLEXlm. Using a newer version of IDL with an older version of the license manager (`lmgrd`) might not allow IDL to operate correctly.

To determine the version of your license manager, run the `lmgrd` program with the `-version` switch. For example:

```
/usr/local/rsi/idl_6.2/bin/lmgrd -version
```

To upgrade the license server, issue the following commands at the command line:

```
cd RSI-DIR/idl_6.2/bin
lmgrd_install
```

## Working with the License Server

Several license manager support utilities are supplied for controlling the operation of the license server. These commands are all found in the `RSI-DIR/idl_6.2/bin` directory as shell scripts.

---

### Note

You must have your IDL environment set up before running any of these utilities. For more information, see [“Set Up the IDL Environment”](#) on page 66.

---

---

### Note

To view a complete list of license manager utility commands, change to the `RSI-DIR/idl_6.2/bin` directory and type `lmutil` at the UNIX prompt.

---

## Starting the License Manager

Start the license manager manually by entering the following:

```
RSI-DIR/idl_6.2/bin/lmgrd [-c license_path]
```

where `RSI-DIR` is the directory where you have installed your RSI software and `license_path` is the full pathname to the license file, including the license filename.

## Starting Automatically at Boot Time

You can set up the license server to start automatically every time your server is booted by one of three methods (root privileges are required):

- Set it up through the license wizard (see [“Enter the License Key”](#) on page 64)

- Issue the following commands at the command line:

```
cd RSI-DIR/idl_6.2/bin
lmgrd_install
```

- Refer to the comments in the `sys5_idl_lmgrd` script in the *RSI-DIR*/idl\_6.2/bin directory to install and configure the boot time script manually

To customize the boot time script after it has been installed, refer to the comments in the `sys5_idl_lmgrd` script in the *RSI-DIR*/idl\_6.2/bin directory.

---

### Note

The boot time startup script works with all supported operating systems. Consequently, if you have previously configured a system boot time script that is different than the `sys5_idl_lmgrd` script, after you have installed the IDL 6.2 boot time startup script, be certain to modify your other boot time script so that a second instance of the RSI license manager will not be started on the same system. Running two instances of the RSI license manager on the same system will cause a conflict that will prevent the RSI license manager from working correctly

---

## Creating a License Manager Log File

The license manager writes a log of its activities to its standard output. If you do not want to keep a log, you can redirect the standard output to the null device (`/dev/null`) by starting the license manager with the command:

```
RSI-DIR/idl_6.2/bin/lmgrd > /dev/null
```

It is also possible to direct the log to the system console with the command:

```
RSI-DIR/idl_6.2/bin/lmgrd > /dev/console
```

If you want to keep a permanent log file, you should choose a location on your system where a growing log will not cause disk space problems. On Sun systems, the `/var/adm` directory is a reasonable choice.

## Shutting Down the License Manager

The `lmdown` program initiates a shutdown of all license managers by sending a message to every license manager asking it to shut down. The license managers write out their last messages to the log file, close the file, and exit. All licenses which have been given out by those managers are rescinded, so that the next time an RSI software process goes to verify its license, it will not be valid.

To run `lmdown`, change to your *RSI-DIR*/idl\_6.2/bin directory and type `lmdown` at the UNIX prompt following the syntax below:

```
lmdown [-c license_file] [-q]
```

Option arguments include `-c` which defines the path to your `license.dat` file and `-q` which runs `lmdown` in “quiet mode”. If the `-q` switch is not specified, `lmdown` asks for

confirmation before asking the license managers to shut down. If this switch is specified, `lmdown` does not ask for confirmation. RSI recommends using the `-c` option to explicitly specify the license file or `port@host` reference when stopping the license manager, especially when multiple license managers are running on your network.

Security note: Unauthorized use of the `lmdown` command can be disruptive because when the license manager shuts down, all current RSI software product sessions are terminated. You should ensure that the file access modes on your system are sufficiently restrictive. We recommend setting the permissions for `lmdown` with the following UNIX command:

```
chmod 500 RSI-DIR/idl_6.2/bin/lmdown
```

## Reclaiming an Unused License

If a licensed user is running IDL when the machine crashes, the license that was in use might fail to be returned to the server. In this case, the license is not available to other users. The `lmremove` program allows the system administrator to remove a single user's license for a specified feature and allows the license to return to the pool of available licenses.

### Warning

Do not use `lmremove` to return a license that is being used by an active IDL session. Use the command only to reclaim licenses from IDL sessions that are no longer active.

To free a license, you need to first gather information using the status command, `lmstat`. To run `lmstat`, change to your `RSI-DIR/idl_6.2/bin` directory and type:

```
lmstat -A | more
```

This shows the status of license managers as well as checked-out licenses. For example the following line shows user 'robin' has a license for IDL 6.2 checked out from the server 'hal7' which is being displayed on the host 'josh':

```
robin hal7 josh/:0 (v6.2) (hal7/1700/395), start Mon 10/12 4:34, #
licenses
```

The format of this line is:

```
user host display (version) (host/port/license_handle),
start_date, #_of_available_licenses
```

If the license held by user 'robin' needs to be freed, make note of the user, host, and display values, and then remove the license with the following `lmremove` syntax:

```
lmremove idl robin hal7 josh/:0
```

where `idl` is the *feature*, `robin` is the *user*, `hal7` is the *host*, and `josh/:0` is the *display*. Other feature values for RSI products appear in the table below. You can check to make sure the license was freed by typing the following at the UNIX command prompt:

```
lmstat -A | more
```

The license you just removed should no longer appear in the list of licenses checked out.

[Table 3-3](#) contains a list of `lmremove` feature values.

RSI Software Product	Feature Value
IDL	idl
IDL Runtime	idl_rt
IDL Student	idl_student<version>
IDL with the Wavelet Toolkit	idl_wavelet
IDL DataMiner	idl_dm
IDL GIF	idl_gif
IDL MPEG	idl_mpeg
IDL TIFF LZW	idl_tiff_lzw
IDLffDicomEx	idl_dicomex_rw
Right to Distribute	devkit
ENVI	envi, envi_flash, envi_nitf
ION Script	ion_script
ION Java	ion_java
RiverTools	idl_rivertools
VIP	vip

Table 3-3: Feature Values for *lmremove*

## Checking the License Manager Status

The `lmstat` program provides information about the status of the server nodes, license managers, and currently checked out licenses. To run `lmstat`, change to your `RSI-DIR/idl_6.2/bin` directory, and enter:

```
lmstat [-a] [-A] [-c license_file] [-s [server]]
```

Optional flags for `lmstat` are shown in [Table 3-4](#).



Optional Flags for lmstat	
-a	This option displays all available information about the license manager status. If this argument is not present, only a brief summary of the manager's state is given.
-A	This option displays a list of all active licenses.
-c <i>license_file</i>	This option defines the license file path. If this switch is not specified, <code>lmstat</code> looks for the <code>LM_LICENSE_FILE</code> environment variable. If that environment variable is not set, <code>lmstat</code> looks for the file <code>RSI-DIR/license/license.dat</code> .
-s [ <i>server</i> ]	This option displays the status of the specified server node(s).

Table 3-4: Optional Flags for lmstat

**Note**


---

IDL might use a license source different from `LM_LICENSE_FILE` if `IDL_LMGRD_LICENSE_FILE` is defined in a `.flexlmrc` file or as an environment variable. For more information, see [“Understanding License Sources”](#) on page 81.

---

## Obtaining a Host ID

The `lmhostid` program obtains a unique FLEXlm `hostid` from your machine. To run `lmhostid`, change to the directory, `RSI-DIR/idl_6.2/bin`, and type `lmhostid` at the UNIX prompt. The output of `lmhostid` looks like this:

```
lmhostid - Copyright (C) 1989-1999 Globetrotter Software, Inc.
The FLEXlm host ID of this machine is "8002add0"
```

**Note**


---

The system `hostid` command might not return the same required FLEXlm value that the `lmhostid` command returns.

---

## Troubleshooting

If the license manager gives an error message when starting, see [“License Manager Startup”](#) on page 115.

## Multiple Applications That Use the Same License Manager

IDL's network license management facility is provided by Macrovision's FLEXible License Manager (FLEXlm). Since this license manager is not unique to IDL, the possibility exists that you will need to run software from two or more software vendors that use FLEXlm. In this case, the potential for license server conflict exists. There are two cases to be considered:

- All products and product license managers are installed on the same server
- The products and product license managers use different servers

---

### Note

Changes to an altered license file will not take effect until the license server program is restarted using that license file.

---

## All Products Use the Same Server Nodes

If an RSI product and other vendor products also using FLEXlm will all be using the same license server machine to administer licenses, and if all of the vendor license files are compatible, you can combine the license files in a single license file.

Different FLEXlm vendor licenses are compatible for combination if the LMHostid value on the SERVER line for each file is exactly the same. For example, if the SERVER line in two different vendor license files are the following:

```
SERVER server1.acme.com 12345678 1700
```

and

```
SERVER server1 12345678 1800
```

you can combine the licenses into a single license file using either of the SERVER lines above, because the third item is the same in both (12345678).

---

### Note

Manually combining the information from multiple separated RSI `license.dat` files that contain a SERVER line will invalidate the license and prevent the license manager from running. The newest version of an RSI product license file will normally work with previous versions of the supported products.

---

After shutting down the license server, use a text editor to alter a single license file. In this single license file, combine all license files by taking the SERVER lines from any *one* license file, and adding *all* the DAEMON, FEATURE, FEATURESET, and INCREMENT lines from *all* of the license files.

Place copies of this combined license file in the locations required by the various software vendors. Alternatively, a single copy of the license file can be located in any convenient

location, in which case each client machine must set the `LM_LICENSE_FILE` environment variable to point to it.

---

### Note

IDL might use a license source different from `LM_LICENSE_FILE` if `IDL_LMGRD_LICENSE_FILE` is defined in a `.flexlmrc` file or as an environment variable. For more information, see [“Understanding License Sources”](#) on page 81.

---

Users on client machines can also set their environments to point to the `port@host` setting of the license server. See [“Setting Up the IDL Environment”](#) on page 77 for instructions.

After saving the license files in the appropriate locations, restart the license manager with the *most recent* version of `lmgrd` that you have installed. (IDL 6.2 uses FLEXlm v9.2.) If an older version of `lmgrd` is used, the license manager from the product with a more recent `lmgrd` will not operate correctly. To determine the version of `lmgrd`, run the `lmgrd` program with the `-version` switch. For example:

```
/usr/local/rsi/idl_6.2/bin/lmgrd -version
```

If you do not combine license files or if the vendor license files are not compatible, you have the option of starting a separate license manager for each vendor’s license file on the same single license server.

## The Products Use Different Servers

If the products use different server sessions, a local or shared network copy of each vendor license file is required on each client machine, or a `port@host` reference might be necessary. The copy of the license file or `port@host` reference directs the request for a license to the proper server. You will also need to set the existing `LM_LICENSE_FILE` variable to include the new product’s license file path or a `port@host` reference.

---

### Note

IDL might use a license source different from `LM_LICENSE_FILE` if `IDL_LMGRD_LICENSE_FILE` is defined in a `.flexlmrc` file or as an environment variable. For more information, see [“Understanding License Sources”](#) on page 81.

---

For example, if you have an existing product named `otherapp` residing in the home directory, the `LM_LICENSE_FILE` environment variable would be defined as follows:

For C shell:

```
setenv LM_LICENSE_FILE /home/otherapp/license.dat
```

For Korn or Bash shell:

```
export LM_LICENSE_FILE=/home/otherapp/license.dat
```

To add an RSI software product license file, add it to the existing `LM_LICENSE_FILE` variable by separating the new application’s license path from the existing one with a colon as follows:

For C shell (enter the following command as one line):

```
setenv LM_LICENSE_FILE
/home/otherapp/license.dat:RSI-DIR/license/license.dat
```

For Korn or Bash shell (enter the following command as one line):

```
export LM_LICENSE_FILE=
/home/otherapp/license.dat:RSI-DIR/license/license.dat
```

*RSI-DIR* is the installation directory for your RSI software product.

If a local or network copy of the license file is not available, you can use a *port@host* reference in the `LM_LICENSE_FILE` definition. For example;

For C shell

```
setenv LM_LICENSE_FILE /home/otherapp/license.dat:1700@server1
```

For Korn or Bash shell

```
export LM_LICENSE_FILE=/home/otherapp/license.dat:1700@server1
```

---

### Tip

Restart the license manager with the most recent version of `lmgrd` that you have installed. The version number of `lmgrd` is displayed when it is started. You can also determine the version by running the `lmgrd -version` command. If an older version of `lmgrd` is used, the license manager daemon that uses the product with a more recent version of FLEXlm will not operate correctly.

---



---

### Tip

For starting and stopping the license server program in an environment that has multiple license servers running, RSI recommends using the `-c` switch for `lmgrd` to specify which license server you want to reference. For example, to start the license manager with respect to an RSI license file in the default location, issue the following command (enter it as one line):

```
/usr/local/rsi/idl_6.2/bin/lmgrd -c
/usr/local/rsi/license/license.dat
```

---

## Troubleshooting

If an RSI software product runs in seven-minute demonstration mode after you have attempted to license the product, see [“Licenses Requiring a License Server”](#) on page 110 for troubleshooting information. If you see errors from the license manager itself, turn to [“License Manager Startup”](#) on page 115.

# Setting Up the IDL Environment

Before you can run your RSI product on a UNIX platform, you must set up each user's environment on the machine that will be running it. This consists of the following tasks that each user will need to complete:

- Defining the required IDL environment variables and aliases.
- Defining the required ION environment variables and aliases.
- Defining the path to the license file or license server.

## Define IDL Environment Variables and Aliases

Three setup scripts (`idl_setup`, `idl_setup.ksh`, and `idl_setup.bash`) have been provided. These scripts will set all required environment variables and aliases for IDL. RSI suggests that you modify the `.cshrc`, `.profile`, or `.bashrc` file for each user who will be accessing IDL so that these settings are automatically executed whenever a user logs in.

To modify the `.cshrc`, `.profile`, or `.bashrc` files, complete the following steps:

1. **Modify each user's `.cshrc`, `.profile`, or `.bashrc` file using any plain text editor.**

For C shell, have users add the following line to their `.cshrc` files:

```
source RSI-DIR/idl_6.2/bin/idl_setup
```

For Korn shell, have users add the following line to their `.profile` files:

```
. RSI-DIR/idl_6.2/bin/idl_setup.ksh
```

For Bash shell, have users add the following line to their `.bashrc` files:

```
. RSI-DIR/idl_6.2/bin/idl_setup.bash
```

where *RSI-DIR* is the main installation directory for your RSI product.

2. **Execute your `.cshrc`, `.profile`, or `.bashrc` file.** Log out and log back in to execute the `.cshrc`, `.profile`, or `.bashrc` file or execute the file from the home directory using one of the following commands:

For C shell:

```
source .cshrc
```

For Korn shell:

```
..profile
```

For Bash shell:

```
..bashrc
```

## Define ION Environment Variables and Aliases

If you installed ION during your IDL installation, you will need access to ION Service utilities, as well as IDL-related environment variables and aliases, and you will need to define the `ION_DIR` environment variable to point to the main ION directory. A script called `ion_setup` (`ion_setup.ksh` for Korn shell or `ion_setup.bash` for Bash shell) is located in the `RSI_DIR/idl_6.2/products/ion_6.2/bin` directory. This script also allows you to use the `rsilicense` command, which starts the licensing wizard, and the `ionman` command, which opens the ION Online Manuals in Adobe Acrobat Reader. To have your environment automatically set up upon login, do the following:

### 1. Modify your `.cshrc`, `.profile`, or `.bashrc` file using any plain text editor.

For C shell users, add the following line to your `.cshrc` files:

```
source RSI-DIR/idl_6.2/products/ion_6.2/bin/ion_setup
```

For Korn shell users, add the following line to your `.profile` files:

```
. RSI-DIR/idl_6.2/products/ion_6.2/bin/ion_setup.ksh
```

For Bash shell users, add the following line to your `.bashrc` files:

```
. RSI-DIR/idl_6.2/products/ion_6.2/bin/ion_setup.bash
```

where `RSI-DIR` is the name of the main installation directory you selected previously.

### 2. Execute your `.cshrc`, `.profile`, or `.bashrc` file. Log out and log back in to execute the `.cshrc`, `.profile`, or `.bashrc` file, or execute the file from the home directory using one of the following commands:

For C shell:

```
source .cshrc
```

For Korn shell:

```
. .profile
```

For Bash shell:

```
. .bashrc
```

## Define the Path to the License File or License Server

To allow access to RSI software for both node-locked and floating licenses, the machines on which you are running IDL must have access to both the license file or the license manager.

### Note

Since Web servers do not read any system environment variables, you cannot use the `LM_LICENSE_FILE` environment variable to point to where you have located your license file for use with ION. When licensing ION, you must place your license file in the default location `RSI-DIR\license\license.dat` where `RSI-DIR` is the name of the main

installation directory you selected to install ION Java. On UNIX, if you have a network license that you want your ION installation to use, you can copy the network license file to the default location `RSI-DIR\license\license.dat` on the machine on which you are running ION.

---

## Node-Locked License

If you are installing a node-locked license and you saved the license file in a place other than the default (`RSI-DIR\license\license.dat`), you must define the path to the license file. RSI suggests that you modify the `.cshrc`, `.profile`, or `.bashrc` file for each user who will be accessing IDL so that these settings are automatically executed whenever a user logs in.

1. **Modify each user's `.cshrc`, `.profile`, or `.bashrc` file using any plain text editor.** You must define the UNIX environment variable for `LM_LICENSE_FILE` to point to the path to the license file. For example, if you save your license file as:

```
/myhome/license.dat
```

in the `.cshrc`, `.profile`, or `.bashrc` file, define the `LM_LICENSE_FILE` variable as follows:

For C shell:

```
setenv LM_LICENSE_FILE /myhome/license.dat
```

For Korn or Bash shell:

```
export LM_LICENSE_FILE=/myhome/license.dat
```

### Note

---

IDL might use a license source different from `LM_LICENSE_FILE` if `IDL_LMGRD_LICENSE_FILE` is defined in a `.flexlmrc` file or as an environment variable. For more information, see [“Understanding License Sources”](#) on page 81.

---

2. **Execute your `.cshrc`, `.profile`, or `.bashrc` file.** Log out and log back in to execute the `.cshrc`, `.profile`, or `.bashrc` file or execute the file from the home directory using one of the following commands:

For C shell:

```
source .cshrc
```

For Korn shell:

```
. .profile
```

For Bash shell:

```
. .bashrc
```

## Floating Licenses

You must define the path to the license server in each user's environment that will be running IDL. To do this, you must define the `LM_LICENSE_FILE` environment variable. RSI suggests that you modify the `.cshrc`, `.profile`, or `.bashrc` file for each user who will be accessing IDL so that these settings are automatically executed whenever a user logs in.

1. **Modify each user's `.cshrc`, `.profile`, or `.bashrc` file using any plain text editor.** You must define the UNIX environment variable for `LM_LICENSE_FILE` to point to the server and port of the machine running the license server. The syntax for the defining the environment variable is:

```
port@host
```

---

### Note

IDL might use a license source different from `LM_LICENSE_FILE` if `IDL_LMGRD_LICENSE_FILE` is defined in a `.flexlmrc` file or as an environment variable. For more information, see [“Understanding License Sources”](#) on page 81.

---

For example, if you are running the license server on a machine named “hal” with a port of 1700, you would enter:

For C shell:

```
setenv LM_LICENSE_FILE 1700@hal
```

For Korn or Bash shell:

```
export LM_LICENSE_FILE=1700@hal
```

2. **Execute your `.cshrc`, `.profile`, or `.bashrc` file.** Log out and log back in to execute the `.cshrc`, `.profile`, or `.bashrc` file or execute the file from the home directory using one of the following commands:

For C shell:

```
source .cshrc
```

For Korn shell:

```
. .profile
```

For Bash shell:

```
. .bashrc
```

You can change the port number by modifying the license file. For more information, see [“Viewing or Modifying the License File”](#) on page 67.

Alternatively, you can place a copy of the server's `license.dat` file in the `/usr/local/rsi/license` directory on your client machine. If this directory does not exist, you need to create it.



Another option is to use NFS to mount the partition on the license server containing the RSI directory onto the client machine. Assuming that the license file is in `/usr/local/rsi/license`, this method gives access both to the IDL software and to the license file.

## Understanding License Sources

FLEXlm stores the latest successful license information on UNIX, Mac OS X, and Linux in a FLEXlm resource file called `.flexlmrc` in the user's home directory. This file defines a variable named `IDL_LMGRD_LICENSE_FILE` to indicate the license source. For example, the definition in the file might read as follows:

```
IDL_LMGRD_LICENSE_FILE=/usr/local/rsi/license/license.dat
```

IDL continues to use this information until the `IDL_LMGRD_LICENSE_FILE` value is redefined, the `.flexlmrc` file is removed, or a system environment variable called `IDL_LMGRD_LICENSE_FILE` is defined in the shell environment used to start IDL.

Note that even if a system environment variable named `IDL_LMGRD_LICENSE_FILE` is defined, the `IDL_LMGRD_LICENSE_FILE` setting in the `.flexlmrc` file will continue to be referenced, but as a secondary license source if the `IDL_LMGRD_LICENSE_FILE` system environment variable does not supply a viable license source for the IDL session.

A license source defined by `IDL_LMGRD_LICENSE_FILE` in your `.flexlmrc` file or as a system variable will always hold precedence over any `LM_LICENSE_FILE` environment variable's definition. Only if IDL cannot successfully access a license source defined by `IDL_LMGRD_LICENSE_FILE` will it attempt to access a license defined by `LM_LICENSE_FILE`. Here is the order of license-source precedence:

1. The `IDL_LMGRD_LICENSE_FILE` environment variable (RSI product-specific)
2. The `IDL_LMGRD_LICENSE_FILE` definition in `.flexlmrc` (RSI product-specific)
3. The `LM_LICENSE_FILE` environment variable (seen by all products using FLEXlm)
4. The `license.dat` file in the default location (`RSI-DIR\license\license.dat`)
5. The evaluation license (`RSI-DIR\license\*.lic`)

To override the `.flexlmrc` license-source definition, define an `IDL_LMGRD_LICENSE_FILE` system environment variable that points to the desired license file. For example, for a C shell:

```
setenv IDL_LMGRD_LICENSE_FILE /usr/local/rsi/license/license.dat
```

For a Korn or Bash shell:

```
export IDL_LMGRD_LICENSE_FILE=/usr/local/rsi/license/license.dat
```

# Running IDL under UNIX

You can now start IDL or any of the following executables by entering one of the following commands:

- For IDL without its Motif GUI environment, enter `idl` at the system command prompt. IDL command line access is available at the UNIX prompt.
- For IDL with a GUI environment, enter `idlde` at the system command prompt. This starts the IDL Development Environment.

All available commands are:

Command	Description
<code>idl</code>	Starts IDL in command line access mode.
<code>idlde</code>	Starts IDL Development Environment.
<code>idl -vm</code>	Starts IDL Virtual Machine.
<code>idl -rt</code>	Starts the runtime version of IDL.
<code>rsilicense</code>	Starts the licensing wizard.
<code>idldemo</code>	Starts the IDL Demo Applications. You can also type <code>demo</code> at the IDL prompt after you have started IDL.
<code>idlhlp</code>	Starts the IDL and ION online help.

*Table 3-5: IDL Startup Commands*

---

## Note

For the versions of UNIX that provide both 32- and 64-bit architectures, to run the first four commands in [Table 3-5](#) in 32-bit mode, you must use a `-32` flag after the command (e.g., `idl -32`).

---

## Note

If these commands do not produce the expected results, you need to set IDL environment aliases. See [“Setting Up the IDL Environment”](#) on page 77.

---

## Running the IDL Virtual Machine under UNIX

To run a `*.sav` file in the IDL Virtual Machine:

1. Enter `idl -vm=<path><filename>.sav` at the system command prompt, where `<path>` is the path to the `*.sav` file, and `<filename>` is the name of the `*.sav` file. The IDL Virtual Machine window is displayed.
2. Click anywhere on the IDL Virtual Machine window to close the window and run the `*.sav` file.

To launch the IDL Virtual Machine and select a `*.sav` file to open:

1. Enter `idl -vm` at the system command prompt. The IDL Virtual Machine window is displayed.
2. Click anywhere on the IDL Virtual Machine window to display a file selection menu.
3. Open a `*.sav` file from the file selection menu.

## Running IDL Runtime Applications under UNIX

To run a `*.sav` file in the runtime version of IDL:

1. Enter `idl -rt=<path><filename>.sav` at the system command prompt, where `<path>` is the path to the `*.sav` file, and `<filename>` is the name of the `*.sav` file.
2. The application contained in the `*.sav` file is run in the runtime version of IDL.

### Note

---

When a `*.sav` file is run with the `idl -rt` command on a machine without an IDL license, it will run in the IDL Virtual Machine.

---





## Chapter 4

# Installing and Licensing IDL 6.2 for Macintosh

This chapter covers the following topics:

---

Introduction .....	86	Setting Up the IDL Environment .....	95
Installing IDL for Macintosh .....	88	Running IDL for Macintosh .....	96
Licensing IDL for Macintosh .....	90	Removing IDL for Macintosh .....	100

# Introduction

## Recommended Steps for Installing and Licensing IDL for Mac OS X

The steps required to install and license IDL depend upon the type of license you will be using. RSI recommends you use the following steps when installing and licensing IDL.

### Note

---

Licensing IDL 6.2 for Macintosh operates much the same as it does for UNIX. Accordingly, the cross-references in the licensing sections below are to the corresponding sections in [Chapter 3, “Installing and Licensing IDL 6.2 for UNIX”](#). For more information, including the differences between UNIX and Macintosh that you should keep in mind while following licensing instructions, see [“Licensing IDL for Macintosh”](#) on page 90.

---

### IDL Virtual Machine

1. **Install IDL Virtual Machine and X11.** See [“Installing IDL for Macintosh”](#) on page 88.
2. **Set up and run IDL.** See [“Running IDL for Macintosh”](#) on page 96.

### Evaluation Licenses

1. **Install IDL and X11.** See [“Installing IDL for Macintosh”](#) on page 88.
2. **Request a license.** You might have already received an evaluation license key by email or fax. If you have not received it, contact your RSI sales representative to request an evaluation license.
3. **Enter your license key.** See [“Evaluation Licensing”](#) on page 91.
4. **Set up and run IDL.** See [“Running IDL for Macintosh”](#) on page 96.

### Personal Use Licenses

1. **Install IDL and X11.** See [“Installing IDL for Macintosh”](#) on page 88.
2. **Request a license.** You might have already received your personal use license key by email or fax. If you have not received it, contact your RSI sales representative to request a personal use license.
3. **Enter your license key.** See [“Personal Use Licensing”](#) on page 91.
4. **Set up and run IDL.** See [“Running IDL for Macintosh”](#) on page 96.

## Node-Locked or Floating Licenses

1. **Install IDL and X11.** See [“Installing IDL for Macintosh”](#) on page 88.

---

**Note**

If you will be installing the license server on a different machine, see also [“Working with the License Server”](#) on page 69.

---

2. **Request a license.** You might have already received your RSI product license information by email or fax. It provides your product installation number and additional information about licensing your product. If you have not received it, see [“Requesting a License”](#) on page 90 to create a license request.
3. **Enter your license key.** See [“Node-Locked or Floating Licensing”](#) on page 91.
4. **Start the license manager.** See [“Starting the License Manager”](#) on page 69.
5. **Set up the IDL environment on each client machine.** See [“Setting Up the IDL Environment”](#) on page 95.

# Installing IDL for Macintosh

## System Requirements

The following are the system requirements for IDL 6.2 for Macintosh:

Requirement	Description
Disk space	225 MB (minimal recommended disk space for a default installation)
Operating System	MacOS X version 10.3.x
Software	Apple X11 X-Windows manager

*Table 4-1: IDL 6.2 Macintosh System Requirements*

## Run the IDL Installer

Installation of IDL 6.2 for Mac OS X is a two-step process:

1. Install Apple X11 from the Mac OS X 10.3 CD-ROM.
2. Install IDL 6.2.

X11 must be installed before running IDL. The X11 window manager lets you display and manipulate UNIX X-Windows in a way similar to the native Mac OS X Aqua interface.

### 1. Install Apple X11

Apple X11 is not installed by default with Mac OS X 10.3. If it is not installed, follow these instructions:

1. Insert the Mac OS X 10.3 CD-ROM in your CD-ROM drive.
2. Install X11 on your Macintosh.

### 2. Install IDL 6.2

1. **Insert the IDL CD-ROM in your CD-ROM drive.** The IDL 6.2 volume window appears. If the window does not appear, double-click the IDL 6.2 CD-ROM icon.
2. **Start the IDL installation.** To install IDL, double-click the **Install** icon.
3. The Introduction screen is displayed. Click **Next** to begin the installation process.
4. **Accept the license agreement.** In order to continue the installation, you must accept the terms of the RSI license agreement. Click **Next**.



5. **View the IDL release notes.** The release notes contain important information about this release of IDL. Click **Next** to proceed.
6. **Select the installation folder.** By default, IDL 6.2 will be installed in the `/Applications/rsi` folder. To modify this location, click on **Choose**. The path must not contain any spaces in the folder names. Click on **Next** to begin the installation.

---

**Note**

If the installation folder or any folder in the path to the installation folder contains spaces in its name, IDL will not run. Rename the folder without spaces before you install, or use the default `/Applications/rsi` installation path.

---

---

**Note**

The folder that you choose will contain a folder named `rsi`. The `rsi` folder will contain the IDL 6.2 installation. For example, if you choose `/usr/local` as the installation folder, the `idl_6.2` folder will be created as follows:  
`/usr/local/rsi/idl_6.2`.

---

7. **Select where to create aliases.**
8. **Select the install set.** Choose **IDL** to install the full version of IDL, **IDL Virtual Machine** to install the runtime version for running distributed IDL `*.sav` files, or **Custom** to customize the packages to install. Click **Next** to proceed.
9. Confirm the install settings and options.
10. Click on **Install** to begin the installation.
11. If you selected to install DICOM Network Services, you will be asked if you want to configure the network services to start automatically at boot time.
12. **Run the license program.** To run the program now, click **Next**. To run it at a later time, clear the selection and click **Next**.
13. **Finish up the installation.** When the message appears stating that your installation was successful, click **Done**.

# Licensing IDL for Macintosh

Because of underlying similarities between the platforms, licensing IDL 6.2 for Macintosh operates much the same as it does for UNIX. Accordingly, you can follow the instructions in “[Licensing IDL for UNIX](#)” on page 58 while keeping the following differences in mind:

- **Default installation directory** — the default RSI installation directory (denoted as *RSI-DIR* throughout this guide) is `/Applications/rsi`.
- **Starting the licensing wizard** — wherever the instructions ask you to start the licensing wizard, double-click the *RSI-DIR/idl\_6.2/RSILicense* application
- **Installing the license server files** — the only major difference between the UNIX and Macintosh installations of the license server, for node-locked and floating licenses, is the source of the license server binaries. For Mac OS X, the binaries are on the IDL installation CD-ROM; therefore, you will need to insert and eject the CD-ROM where the UNIX instructions ask you to mount and unmount the CD-ROM on the license server system.

---

**Note**

This information applies only for installation of the license server on a machine different from the one holding the IDL installation. For more information, see “[Install the License Server Files](#)” on page 63.

---

The rest of this section describes the licensing process for IDL on Mac OS X in more detail.

## Setting Up Your Environment

Installing your license and automatically configuring the license server with the RSILicense Applescript application does not require special setup of the Apple X11 shell environment.

However, if you need to issue any license-utility line commands or start an IDL session from an Apple X11 shell prompt, you might need to set up your shell environment before issuing the commands. See “[Setting Up the IDL Environment](#)” on page 95 for more information.

## Requesting a License

See “[Requesting a License](#)” on page 59 for instructions and additional information.

## Preparing a License Request

Double-click the RSILicense Applescript icon to launch the licensing wizard. See “[Requesting a License](#)” on page 59 for additional information.

## Manually Sending a License Request

See “[Manually Sending a License Request](#)” on page 60 for instructions and additional information.

## Evaluation Licensing

After installing IDL (see “[Installing IDL for Macintosh](#)” on page 88), use the licensing wizard to install your evaluation license. If you do not have a license key, contact your RSI sales representative to request an evaluation license (see “[Requesting a License](#)” on page 90).

To install an evaluation license:

1. **Start the licensing wizard.** Use the Apple Finder to navigate to the *RSI-DIR/idl\_6.2* folder, where *RSI-DIR* is the installation location for your RSI software (the default is */Applications/rsi*). In the *RSI-DIR/idl\_6.2* folder, double-click *RSILicense* to launch the wizard.

---

### Note

If you run the license manager another way (i.e., not through the *RSILicense* Applescript), you might need to set up your environment. For more information, see “[Setting Up Your Environment](#)” on page 90.

---

2. **Access the Evaluation License dialog.** Select **Evaluation** on the **Product Licensing** dialog.
3. **Enter your license information.** Enter the information *exactly* as it appears on your registration form .
4. **Exit the licensing wizard.** Click **Finish**. IDL is now licensed.
5. **Run IDL.** See “[Running IDL for Macintosh](#)” on page 96 for more information.

See “[Evaluation Licensing](#)” on page 61 for more information.

## Personal Use Licensing

See “[Personal Use Licensing](#)” on page 62 for instructions and additional information.

## Node-Locked or Floating Licensing

After installing IDL (see “[Installing IDL for Macintosh](#)” on page 88), use the licensing wizard to install your node-locked or floating license. If you do not have a license key, contact your RSI sales representative to request a license (see “[Requesting a License](#)” on page 90).

1. **Start the licensing wizard.** Use the Apple Finder to navigate to the *RSI-DIR/idl\_6.2* folder, where *RSI-DIR* is the installation location for your

RSI software (the default is `/Applications/rsi`). In the `RSI-DIR/idl_6.2` folder, double-click `RSILicense` to launch the wizard.

---

### Note

If you run the license manager another way (i.e., not through the `RSILicense` Applescript), you might need to set up your environment. For more information, see [“Setting Up Your Environment”](#) on page 90.

---

2. **Display the Enter License Text dialog.** Select **Permanent** and then **License** on the licensing wizard dialogs.
3. **Enter your license file.** Paste the text of the license file into the dialog’s text window, or select **Browse** to select the license file that you have saved on the license server. If you paste in your license file, remove any header lines that are included in the file, but keep the comment lines that begin with the “#” character. If you have received your license file by fax or another hard-copy method, enter the information directly into the text window.

---

### Note

Occasionally, email editors or text obtained from a Web browser can become corrupted by inadvertent line-wrapping or character replacement. Make sure that you review your license key for these possible errors. If such an error is not corrected, the software will not be licensed. For an example of a correctly formatted license key, see [“Node-Locked License”](#) or [“Floating License”](#) on page 20.

---

4. **Modify the DAEMON line of the license file if necessary.** If you installed IDL in a location other than the default, be sure that the `DAEMON` line of the license file reflects the actual path of your `RSI-DIR/IDL_6.2/bin` directory. The default path on Mac OS X is `/Applications/rsi/idl_6.2/bin`, so the line would read as follows:

```
DAEMON idl_lmgrd /Applications/rsi/idl_6.2/bin
```

5. **Save the license file.** Click to the next screen to save the licensing information in a file named `license.dat` in the `RSI-DIR/license` directory. If you have installed your software in a directory other than the default, you must set the environment variables to point to the `license.dat` file before starting your RSI software or the license manager (if you need to use the license manager). See instructions for setting the `LM_LICENSE_FILE` environment variable in [“Define the Path to the License File or License Server”](#) on page 78.

---

### Note

If you receive a message that there is an existing license file, save the existing file under a different name before proceeding. While the new license usually contains information for all currently licensed products, save the old file as a safeguard

against destroying license information. Run the license wizard again to save the new license file in the default location.

---

6. **Install a script to start the license manager at boot time (optional).** You receive this prompt if your license file contains a `SERVER` line and if the server's `LMHostid` matches the system's `LMHostid`. You do not have to install the script. If you do not, the license wizard continues with the next dialog. If you do install it, the license wizard runs the license manager's installation script (`lmgrd_install`) and then continues with the next dialog. Click **Yes** to install the script or **No** not to install it.

### Note

---

License files that do not contain a `SERVER` line (such as personal-use licenses) do not need to configure or start the license manager. If you have such a license file, skip to Step 8.

---

7. **Set up the license environment for floating-license clients if necessary.** For any network floating-license client machines that do not have access to a copy of the license server's license file, set up the license environment for the client machines. See [“Define the Path to the License File or License Server”](#) on page 78 for instructions and additional information.
8. **Exit the licensing wizard.** Click **Finish**.
9. **Reboot the system.** You need to reboot your system if you have installed the script to start the license manager at boot time (see Step 6).
10. **Run IDL.** See [“Running IDL for Macintosh”](#) on page 96 for more information.

See [“Node-Locked or Floating Licensing”](#) on page 63 for more information.

## Modifying the License File

Double-click the `RSILicense` Applescript icon to launch the licensing wizard. See [“Modifying the License File”](#) on page 67 for additional information.

## Upgrading the License Server from a Previous Installation

To avoid problems, use the automatic boot-time configuration utility to upgrade your RSI license manager. If your system was manually configured to launch a previous version of the RSI license manager at boot time, you might need to uninstall or disable the older, manually created `/Library/StartupItems` item. Simultaneously running more than one RSI license manager on the same machine can result in a license-manager conflict.

The IDL 6.2 license-manager installation script creates a `Library/StartupItems` item called `IDL_LMGRD`. If you have a previous item in this folder under a different name (e.g.,

RSI\_LICENSE) that also launches the RSI license manager, you should remove the older, conflicting item.

See [“Working with the License Server”](#) on page 69 for instructions and additional information.

## Working with the License Server

See [“Working with the License Server”](#) on page 69 for instructions and additional information.

## Multiple Applications That Use the Same License Server

See [“Multiple Applications That Use the Same License Manager”](#) on page 74 for instructions and additional information.

# Setting Up the IDL Environment

---

**Note**

You do not need to set up the IDL environment if you are using the Applescript applications. For more information, see [“Running IDL from Applescript”](#) on page 96.

---

Before you can run IDL from the command line, you must set up each user’s environment on the machine that will be running it. To do this, you can follow the instructions in [“Setting Up the IDL Environment”](#) on page 77, with the difference between UNIX and Macintosh that T shell users should use `.tcshrc` instead of `.cshrc` (Bash shell users should use `.bashrc`).

---

**Note**

For Mac OS X users who do not already have a `.tcshrc` or `.profile` file, you will need to create one. See your system administrator for details.

---

After you have made the appropriate changes, you will need to open another X-Windows terminal window. The changes you made do not take effect until you have done so.

The IDL installer does not create symbolic links to the IDL binary files. You can create the links manually by following these instructions:

1. Launch X11.
2. Use the `RSI-DIR/idl_6.2/bin/install` executable to create the symbolic links for you, where `RSI-DIR` is the installation directory. You must execute this script from `RSI-DIR`. Enter the following commands to create the symbolic links:

```
cd RSI-DIR
idl_6.2/bin/install
```

3. Include `/usr/local/bin` in your definition of the `PATH` environment variable.

---

**Note**

In addition to making these changes, you can enable accelerators that use the **Alt** key to work with the Macintosh **Apple** key (also known as the **Command** key). For details, see [“Enabling Alt Key Accelerators on Macintosh”](#) in Chapter 30 of the *Building IDL Applications* manual.

---

# Running IDL for Macintosh

IDL 6.2 for MacOS X can be run one of two ways:

- From an Applescript application
- From a UNIX X-Windows prompt

## Note

To improve your IDL experience, you can enable accelerators that use the **Alt** key to work with the Macintosh **Apple** key (also known as the **Command** key). For details, see [“Enabling Alt Key Accelerators on Macintosh”](#) in Chapter 30 of the *Building IDL Applications* manual

## Running IDL from Applescript

To start IDL, you can click on one of the Applescript applications in the RSI-DIR/idl\_6.2 directory. Applescripts run in the user’s default shell. [Table 4-2](#) describes the complete list of applications:

Icon Name	File Name	Description
idl	idl.app	Starts command-line IDL in an Xterminal window
idlde	idlde.app	Starts an IDL development environment session
idlvms	idlvms.app	Starts an IDL Virtual Machine session
IDLDemos	IDLDemos.app	Starts the IDL Demo application
IDLHelp	IDLHelp.app	Opens the IDL online help
RSILicense	RSILicense.app	Starts the RSI Mac OS X licensing wizard
iContour	iContour.app	Starts IDL and opens an iContour window
iImage	iImage.app	Starts IDL and opens an iImage window

Table 4-2: IDL 6.2 Applescript Applications



Icon Name	File Name	Description
iMap	iMap.app	Starts IDL and opens an iMap window
iPlot	iPlot.app	Starts IDL and opens an iPlot window
iSurface	iSurface.app	Starts IDL and opens an iSurface window
iVolume	iVolume.app	Starts IDL and opens an iVolume window
DICOMNetworkServices	DICOMNetworkServices.app	Starts the DICOM Network Services

*Table 4-2: IDL 6.2 Applescript Applications (Continued)*

### Note

The IDL 6.2 and IDL 6.2 Virtual Machine applications might also be on the desktop or dock, depending on the aliases you created during or after installation.

## Running IDL from the Command Line

This section covers how to run IDL from the Mac OS X's X-Windows prompt.

### 1. Start X11

Launch X11 from the Applications folder. X11 displays a UNIX X-Windows command line in an OS X window.

### 2. Set Up the IDL environment

Before you can run IDL, you must set up each user's environment on the machine that will be running it. See "[Setting Up the IDL Environment](#)" on page 95.

### 3. Start IDL

You can now start IDL or any of the following executables by entering one of the following commands at the command line:

- For IDL without its Motif GUI environment, enter `idl` at the system command prompt. IDL command line access is available at the command prompt.
- For IDL with a GUI environment, enter `idldc` at the system command prompt. This starts the IDL Development Environment.

All available commands are listed in [Table 4-3](#).

Command	Description
<code>idl</code>	Starts IDL in command line access mode.
<code>idlde</code>	Starts IDL Development Environment.
<code>idl -vm</code>	Starts IDL Virtual Machine.
<code>idl -rt</code>	Starts the runtime version of IDL.
<code>idldemo</code>	Starts the IDL Demo Applications. You can also type <code>demo</code> at the IDL prompt after you have started IDL.
<code>idlhhelp</code>	Starts the IDL and ION online help.

*Table 4-3: IDL Startup Commands*

### Note

If these commands do not produce the expected results, you need to set IDL environment aliases. See “[Setting Up the IDL Environment](#)” on page 95.

## Running the IDL Virtual Machine under Macintosh

You can run the IDL Virtual Machine from Applescript or from the command line.

### Running from Applescript

To start the IDL Virtual Machine, double-click on `idlv.m.app` in the `RSI-DIR/idl_6.2` directory.

### Running from the Command Line

To run a `*.sav` file in the IDL Virtual Machine:

1. Start X11.
2. Enter `idl -vm=<path><filename>.sav` at the X11 Terminal prompt, where `<path>` is the path to the `*.sav` file, and `<filename>` is the name of the `*.sav` file. The IDL Virtual Machine window is displayed.
3. Click anywhere on the IDL Virtual Machine window to close the window and run the `*.sav` file.

To launch the IDL Virtual Machine and select a `*.sav` file to open:

1. Start X11.

2. Enter `idl -vm` at the X11 Terminal prompt. The IDL Virtual Machine window is displayed.
3. Click anywhere on the IDL Virtual Machine window to display the file selection menu.
4. Open a `*.sav` file from the file selection menu.

## Running IDL Runtime Applications under Macintosh

To run a `*.sav` file in the runtime version of IDL:

1. Enter `idl -rt=<path><filename>.sav` at the X11 Terminal prompt, where `<path>` is the path to the `*.sav` file, and `<filename>` is the name of the `*.sav` file.
2. The application contained in the `*.sav` file is run in the runtime version of IDL.

---

### Note

When a `*.sav` file is run with the `idl -rt` command on a machine without an IDL license, it will run in the IDL Virtual Machine.

---

# Removing IDL for Macintosh

Removing IDL 6.2 for Macintosh installation is a two-step process:

1. Delete the installation folder (default is `/Applications/rsi/idl_6.2`), including all of its contents. This step will remove IDL 6.2 and any other RSI products installed in the installation folder.
2. Remove any aliases created on the desktop or dock.



# Appendix A

# Troubleshooting Licensing

This appendix covers problems that you might encounter with licensing IDL 6.2.

---

<a href="#">General Information</a> .....	102	<a href="#">Node-Locked Licenses (Windows)</a> .....	107
<a href="#">Evaluation Licenses</a> .....	103	<a href="#">Licenses Requiring a License Server</a> .....	110
<a href="#">Personal Use Licenses</a> .....	104	<a href="#">License Manager Startup</a> .....	115

# General Information

This section provides a list of other sources of information and assistance with licensing IDL 6.2.

## Other Resources

### Macrovision

The Macrovision Web site contains online documentation and an excellent FLEXlm FAQ. This information can be helpful when trying to combine licenses from different vendors. See the following Web pages:

Macrovision home page: <http://www.macrovision.com>

FLEXlm FAQ:

[http://www.macrovision.com/services/support/flexlm/enduser\\_faq.shtml](http://www.macrovision.com/services/support/flexlm/enduser_faq.shtml)

### RSI Technical Support Library

Go to [www.RSInc.com/services/search.asp](http://www.RSInc.com/services/search.asp) and select the following for more information on troubleshooting IDL 6.2 licensing:

Category:           **LICENSING**

## For Further Help

If you are still having problems licensing, see “[Contacting RSI](#)” on page 12 for information on how to contact Technical Support.

# Evaluation Licenses

If you receive an error message with an evaluation license on any platform, locate it below for suggestions on resolving the problem.

## The License Information Does Not Pass the Checksum Test

Carefully check to make sure you have entered your license information exactly as it appears in your RSI product license information. Exactly duplicate capitalization, spacing and the date format as shown on your form.

The license information must not contain leading or trailing spaces. For an example of a correctly formatted evaluation license key, see [“Evaluation License”](#) on page 18.

## The File Already Exists

If you have an existing evaluation license for this product, you will be asked if you want to replace it. Select **Yes** to overwrite the old license with the new, extended evaluation license.

## The File Cannot Be Written

You might not have write permissions for the directory or the file to which you are attempting to write. Check the permissions to make sure neither the directory nor any files you are attempting to overwrite are designated as read-only.

---

**Note**

For more information, see [“Files Needed for Initialization of the Licensing Program Could Not Be Found”](#) on page 105.

---

# Personal Use Licenses

This section suggests possible courses of action if you encounter problems with a personal use license on a Windows, Linux, or Macintosh platform.

## Check the License Format

After installing the permanent license information via the licensing wizard program, one of the following error messages appears when attempting to start IDL:

```
% LICENSE MANAGER: Future license file format or misspelling in
license file
The file was issued for a later version of FLEXlm than this
program understands.
Feature:          idl
License path:    C:\RSI\license\license.dat;C:\RSI\license\*.lic
FLEXlm error:   -90,313.  System Error: 2 ""

% LICENSE MANAGER: Invalid license file syntax
Feature:          idl
License path:    C:\RSI\license\license.dat;C:\RSI\license\*.lic
FLEXlm error:   -2,134.  System Error: 2 ""
```

These errors might indicate that the license information has been corrupted.

Some email programs can corrupt license text, replacing original characters with invalid characters. For example, the string:

```
VENDOR_STRING="000011myvendor" HOSTID=ANY PLATFORMS=i86_r \
NOTICE=PERSONAL_USE ck=99
```

could be inadvertently changed to:

```
VENDOR_STRING?"000011myvendor" HOSTID?ANY PLATFORMS?i86_r \
NOTICE?PERSONAL_USE ck?99
```

Another cause of license corruption is inadvertent line wrapping introduced by the email program. For example, a line in the license might be changed from (2 lines).

Correct format:

```
INCREMENT idl idl_lmgrd 6.200 1-jan-0000 0 EC3B7DA4CA19E85C0A71 \
VENDOR_STRING="000011Research Systems, Inc." \
HOSTID=00b012345678 ck=123
```

Incorrect format:

```
INCRMENT idl idl_lmgrd 6.200 1-jan-0000 0 EC3B7DA4CA19E85C0A71
\
VENDOR_STRING="000011Research Systems, Inc." \
HOSTID=00b012345678 ck=123
```



For an example of a correctly formatted personal use license file, see [“Personal Use License”](#) on page 19.

If the license file appears to have been corrupted, try to restore the problem characters or line wrapping to its original state. Or, if a separate file attachment of the license information was provided, please use the license information in the file attachment to replace the corrupted license information. You can use the licensing wizard to edit the license file information that has already been installed.

## Files Needed for Initialization of the Licensing Program Could Not Be Found

You might encounter this error when running the licensing wizard if the installation is incomplete or if you do not have read permissions for the *RSI-DIR*/license directory, where *RSI-DIR* is the main installation directory. Possible ways to resolve this problem include the following actions:

- Run the installer again to repair the installation
- Obtain read permissions for the license directory

## License File Does Not Support This Version

After installing the permanent license information via the licensing wizard program, a form of the following error message appears when attempting to start IDL:

```
% LICENSE MANAGER: License file does not support this version
Feature:          idl
Application version > License version: 6.2 > 5.400
License path:     C:\RSI\\license\license.dat;C:\RSI\\license\*.lic
FLEXlm error:    -21,126. System Error: 2 ""
```

Confirm that the license being referenced contains the correct version. Check the license(s) listed in the “license path” of the error message to verify the contents of the referenced license. Below is an example of an IDL 6.2 license feature (2 lines):

```
INCREMENT idl idl_lmgrd 6.200 1-jan-0000 0 EC3B7DA4CA19E85C0A71 \
VENDOR_STRING=000011RSI HOSTID=00b012345678 ck=123
```

Notice that the product “idl” is listed after “INCREMENT” and the IDL version “6.200” is located after “idl\_lmgrd”. An IDL 6.2 FLEXlm license can also support previous versions of IDL.

If the listed IDL version is less than the version you are trying to license, then an old version of the license is being referenced. Make sure that the correct version of the `license.dat` file is being referenced. See [“Saving the License File in an Alternative Location”](#) on page 46 for more information.

If you do not have a license with the correct version, you must request another license. See [“Requesting a License”](#) on page 30 for information on how to request a license.

## IDL Cannot Find License

After installing the license information via the licensing wizard, an error message appears that indicates that the `license.dat` file cannot be found.

```
% LICENSE MANAGER: Cannot find license file
The license files (or server network addresses) attempted are
listed below. Use LM_LICENSE_FILE to use a different license file,
or contact your software provider for a license file.
Feature:          idl
Filename:         C:\RSI\IDL62\license.dat
License path:     C:\RSI\IDL62\license.dat
FLEXlm error:    -1,359. System Error: 2 "No such file or directory"
```

Make sure that you have either installed the `license.dat` file in the default location (`RSI-DIR\license\license.dat`) or that you have defined your `LM_LICENSE_FILE` environment variable to the path where the `license.dat` file exists. See [“Saving the License File in an Alternative Location”](#) on page 46 for more information.

### Note

---

IDL might use a license source different from `LM_LICENSE_FILE` if `IDL_LMGRD_LICENSE_FILE` is defined in a `.flexlmrc` file or as an environment variable. For more information, see [“Understanding License Sources”](#) on page 81.

---

Additionally, be sure that you have read permissions for the `license.dat` file and for the `RSI-DIR/license` directory in which it resides, where `RSI-DIR` is the main installation directory.

# Node-Locked Licenses (Windows)

This section suggests possible courses of action if you encounter problems with a node-locked license on a Windows platform.

## Check the License Format

After installing the permanent license information via the licensing wizard program, one of the following error messages appears when you attempt to start IDL:

```
% LICENSE MANAGER: Future license file format or misspelling in
license file
The file was issued for a later version of FLEXlm than this
program understands.
Feature:      idl
License path: C:\RSI\license\license.dat;C:\RSI\license\*.lic
FLEXlm error: -90,313. System Error: 2 ""
```

```
% LICENSE MANAGER: Invalid license file syntax
Feature:      idl
License path: C:\RSI\license\license.dat;C:\RSI\license\*.lic
FLEXlm error: -2,134. System Error: 2 ""
```

These errors might indicate that the license information has been corrupted.

Some email programs can corrupt license text, replacing original characters with invalid characters. For example, this string:

```
VENDOR_STRING="000011Research Systems, Inc." HOSTID=00b012345678
ck=99
```

could be inadvertently changed to the following:

```
VENDOR_STRING? "000011Research Systems, Inc." HOSTID?00b012345678
ck?99
```

Another cause of license corruption is inadvertent line wrapping introduced by the email program. For example, a single line in the license might be changed to two lines.

Correct format:

```
INCREMENT idl idl_lmgrd 6.200 1-jan-0000 0 EC3B7DA4CA19E85C0A71 \
  VENDOR_STRING="000011Research Systems, Inc."
  HOSTID=00b012345678 ck=123
```

Incorrect format:

```
INCRMENT idl idl_lmgrd 6.200 1-jan-0000 0 EC3B7DA4CA19E85C0A71 \
  VENDOR_STRING="000011Research Systems, Inc."
  HOSTID=00b012345678 ck=123
```

For an example of a correctly formed node-locked license, see [“Node-Locked License”](#) on page 19.

If the license file appears to have been corrupted, try to restore the problem characters or line wrapping to its original state. Or if a separate file attachment of the license information was provided, please use the license information in the file attachment to replace the corrupted license information. You can use the licensing wizard to edit the license file information that has already been installed.

## The Hostid of This System Does Not Match the Hostid

After installing the permanent license information via the licensing wizard, a form of the following error message appears when starting IDL:

```
% LICENSE MANAGER: Invalid host
  The hostid of this system does not match the hostid
  specified in the license file
Feature:          idl
Hostid:           00b0d0911470
License path:    C:\RSI\license\license.dat;C:\RSI\license\*.lic
FLEXlm error:   -9,57. System Error: 2 ""
```

Confirm that the node-locked hostid in the license matches the actual hostid of the machine that is running IDL:

1. Start the licensing wizard by clicking **Start**→**Programs**→**RSI IDL 6.2**→**License**.
2. Click **Permanent** and then **Request**.
3. Compare the Node LMHostid value with the HOSTID value in your IDL license file.

For example the following IDL license feature line:

```
INCREMENT idl idl_lmgrd 6.200 1-jan-0000 0 EC3B7DA4CA19E85C0A71 \
  VENDOR_STRING=000011RSI HOSTID=00b012345678 ck=123
```

is built for the node hostid “00b012345678”.

If the hostid information obtained from the licensing wizard is different from the information listed in the license file, the license will not work with your machine. The license HOSTID value cannot be altered by a user without invalidating the license. If the hostid of the machine on which you are installing is different from the hostid in the license, you must request another license. See [“Requesting a License”](#) on page 30 for more information.

## The License File Does Not Support This Version

After installing the permanent license information via the licensing wizard program, a form of the following error message appears when attempting to start IDL:

```
% LICENSE MANAGER: License file does not support this version
```

```

Feature:          idl
Application version > License version: 6.2 > 5.400
License path:    C:\RSI\\license\license.dat;C:\RSI\\license\*.lic
FLEXlm error:   -21,126. System Error: 2 ""

```

Confirm that the license being referenced contains the correct version. Check the license(s) listed in the “license path” of the error message to verify the contents of the referenced license. Below is an example of an IDL 6.2 license feature (two lines):

```

INCREMENT idl idl_lmgrd 6.200 1-jan-0000 0 EC3B7DA4CA19E85C0A71 \
  VENDOR_STRING=000011RSI HOSTID=00b012345678 ck=123

```

Note that the product “idl” is listed after “INCREMENT” and the IDL version “6.200” is after “idl\_lmgrd”. An IDL 6.2 FLEXlm license can also support previous versions of IDL.

If the listed IDL version is less than the version you are trying to license, then an old version of the license is being referenced. Make sure that the correct version of the `license.dat` file is being referenced. See [“Saving the License File in an Alternative Location”](#) on page 46 for more information.

If you do not have a license with the correct version, you must request another license. See [“Requesting a License”](#) on page 30 for information on how to request a license.

## Cannot Find License

After you install the license information via the licensing wizard, an error message appears that indicates that the `license.dat` file cannot be found.

```

% LICENSE MANAGER: Cannot find license file
The license files (or server network addresses) attempted are
listed below. Use LM_LICENSE_FILE to use a different license file,
or contact your software provider for a license file.
Feature:          idl
Filename:         C:\RSI\IDL62\license.dat
License path:    C:\RSI\IDL62\license.dat
FLEXlm error:   -1,359. System Error: 2 "No such file or directory"

```

Make sure that you have either installed the `license.dat` file in the default location (`RSI-DIR\license\license.dat`) or that you have defined your `LM_LICENSE_FILE` environment variable to the path where the `license.dat` file exists. See [“Saving the License File in an Alternative Location”](#) on page 46 for more information.

### Note

IDL might use a license source different from `LM_LICENSE_FILE` if `IDL_LMGRD_LICENSE_FILE` is defined in a `.flexlmrc` file or as an environment variable. For more information, see [“Understanding License Sources”](#) on page 81.

Additionally, be sure that you have read permissions for the `license.dat` file and for the `RSI-DIR/license` directory in which it resides, where `RSI-DIR` is the main installation directory.

# Licenses Requiring a License Server

If your RSI product runs in seven-minute demonstration mode after you have attempted to license the product, follow the appropriate suggestions below and try starting IDL again. If you see errors from the license manager itself, turn to “[License Manager Startup](#)” on page 115.

---

## Note

Useful messages can be logged in the license manager output log file that is designated at the time the FLEXlm service is installed.

---

## All Platforms

The following suggestions apply to problems with licence-server licenses on any platform. Platform-specific solutions and commands are indicated where appropriate.

### Check That the License Server Is Running

**(Windows)** Open the LMTools utility from the *RSI-DIR\IDL62\bin\bin.x86* directory. Click the **Perform Status Inquiry** button on the **Server Status** tab. If you receive a message that the license manager cannot connect to the license server, see “[Has Your License File Been Copied Correctly?](#)” on page 112.

**(UNIX or Macintosh)** The `lmstat` license manager utility provides information on the status of the license manager. Enter:

```
RSI-DIR/idl_6.2/bin/lmstat
```

If you receive the following message:

```
Error getting status: Cannot connect to license server
the server is not running correctly.
```

### Is the License Server Available from Your Machine?

If IDL displays the following error message at startup:

```
LICENSE MANAGER: cannot connect to license server.
```

make sure that you can either:

- **(Windows)** Use the network utility “ping” (`ping servername` at the MS-DOS prompt) to contact the server machine
- **(UNIX and Macintosh)** Telnet to the server machine

If you can reach the server machine, ensure that the license manager is running on that machine.

## Stop and Restart the License Manager

(**Windows**) Exit IDL. Stop and then restart the license manager.

(**UNIX or Macintosh**) Exit IDL and stop the license manager, then restart it, directing the output of the license manager to a file. Enter:

```
RSI-DIR/idl_6.2/bin/lmdown
```

Check to make sure that all the license manager processes have shut down with a command such as one of the following:

```
ps -ef | grep lm
```

or

```
ps -aux | grep lm
```

If there are any license manager processes still running, use the kill command to stop them (do not use the `-9` option for kill). Restart the license manager with the following command:

```
RSI-DIR/idl_6.2/bin/lmgrd > logfile
```

Examine the resulting file *logfile* for error messages and refer to [“License Manager Startup”](#) on page 115.

## Is the LM\_LICENSE\_FILE Environment Variable Set to the License File of Another Application?

### Note

---

IDL might use a license source different from LM\_LICENSE\_FILE if IDL\_LMGRD\_LICENSE\_FILE is defined in a `.flexlmrc` file or as an environment variable. For more information, see [“Understanding License Sources”](#) on page 81.

---

(**Windows**) See [“Saving the License File in an Alternative Location”](#) on page 46 to check the setting of the LM\_LICENSE\_FILE environment variable. If LM\_LICENSE\_FILE points to a license file other than the RSI product’s license file, stored in the `RSI-DIR\license` directory, you will need to correct this prior to starting IDL.

### Note

---

If LM\_LICENSE\_FILE has already been defined for another software product, the definition of this license file can be appended using a semi-colon (;) as the delimiter. For example: `C:\license\mylicense.dat;1700@hal`

---

(**UNIX or Macintosh**) Enter the command:

```
echo $LM_LICENSE_FILE
```

to see the current definition of the environment variable. If this environment variable points to some other license file, you will need to unset it prior to starting IDL by entering:

```
unsetenv LM_LICENSE_FILE
```

For Korn or Bash shell:

```
unset LM_LICENSE_FILE
```

If you have used a different path than the default location, make sure that `LM_LICENSE_FILE` points to that location.

## Has Your License File Been Copied Correctly?

If IDL displays any of the following error messages at startup:

```
% LICENSE MANAGER: encryption code in license file is
inconsistent.
```

or

```
% LICENSE MANAGER: Invalid (inconsistent) license key
The license-key and data for the feature do not match.
This usually happens when a license file has been altered
```

or

```
Incorrect FEATURESET line in license file
```

some of the encrypted information in the license file is not correct. This problem can involve the server hostid, the daemon name, and any character on the FEATURE lines.

Examine your license file and correct the INCREMENT or FEATURE line so that it exactly matches the one sent to you by RSI. Check for proper capitalization and spacing. Shut down the license manager service, make any corrections necessary, and restart the service with the corrected license file. For an example of a correctly formatted floating license key, see [“Floating License”](#) on page 20.

**(UNIX and Macintosh)** Shut down the license manager by entering:

```
RSI-DIR/idl_6.2/bin/lmdown
```

and restart it by entering:

```
RSI-DIR/idl_6.2/bin/lmgrd
```

## Is the License Manager Using the Correct License File?

If IDL displays the following error message at startup:

```
LICENSE MANAGER: no such feature exists.
LICENSE MANAGER: license file does not support this feature.
```

the license manager might be using the wrong license file.

**(Windows)** See [“Configure the License Server”](#) on page 38 for details.

**(UNIX and Macintosh)** Reset the `LM_LICENSE_FILE` environment variable to point to IDL’s license file using the command:

```
setenv LM_LICENSE_FILE RSI-DIR/license/license.dat
```



See “[Define the Path to the License File or License Server](#)” on page 78 for more information.

---

**Note**

IDL might use a license source different from `LM_LICENSE_FILE` if `IDL_LMGRD_LICENSE_FILE` is defined in a `.flexlmrc` file or as an environment variable. For more information, see “[Understanding License Sources](#)” on page 81.

---

## Does the License File Contain the Correct Hostname?

If IDL displays the following error message at startup:

```
% LICENSE MANAGER: cannot find SERVER hostname in network
database.
```

the *hostname* in the license file does not agree with the actual hostname for the server, or cannot be accessed from the client node. Edit the license file and correct the hostname.

## UNIX and Macintosh

The following suggestions apply to problems with licence-server licenses on UNIX and Macintosh platforms only.

### Is the Proper Executable File (`idl`) in Your Command Search Path?

The UNIX command:

```
which idl
```

will tell you if it is in your command search path and where it is. You can verify that the search path is the problem by executing IDL directly. If the command:

```
RSI-DIR/idl_6.2/bin/idl
```

runs IDL, you know that the search path is to blame.

### Are the File Permissions Correct?

If you receive the error message “Permission denied” when you try to run IDL, check the permissions set on all the executables. They should have execute permission set for all categories. Set execute permissions for IDL by entering:

```
chmod ugo+x RSI-DIR/idl_6.2/bin/*/*
```

### Does IDL Know the Location of the Main IDL Directory?

The environment variable `IDL_DIR` must be defined to the path of the IDL directory. Enter the following UNIX command:

```
echo $IDL_DIR
```

IDL\_DIR should be set to *RSI-DIR/idl\_6.2*. If not, you probably have not run the `idl_setup`, `idl_setup.ksh`, or `idl_setup.bash` file. See [“Setting Up the IDL Environment”](#) on page 77 for instructions.

## Are Network Permissions Set Properly?

If IDL displays the following message at startup, *except when run from the root account*:

```
% LICENSE MANAGER: invalid host.
```

make sure that the ethernet device (on HP-UX, usually `/dev/lan0`) has `rw` permission for owner, group and other. It probably just has `rw` permission for owner (`root`). Also, make sure that the `/var/tmp` directory has `rw` permissions.

This error occurs most often on HP-UX systems. You can use `/etc/lanscan` to check for the name of the ethernet device. This is the item under the heading “NameUnit”.

## Is the License File in the Correct Location and Are Its Permissions Set Correctly?

If you receive one of the following three error messages, IDL is unable to access the `license.dat` file:

```
% Trial version expired.
```

```
% Machine not licensed for IDL. Entering 7 minute Demo mode. This Demo mode is for short-term product evaluation purposes only.
```

```
% Machine not licensed for IDL. Entering 7 minute Demo mode. This Demo mode is for short-term product evaluation purposes only.
```

```
% Unexpected validation error.
```

```
% Machine not licensed for IDL. Entering 7 minute Demo mode. This Demo mode is for short-term product evaluation purposes only.
```

Check the permissions on the `license.dat` file. All users need read permission. Also make sure the `license.dat` filename is spelled correctly. If you are using the environment variable `LM_LICENSE_FILE`, make sure that the full path and filename of the `license.dat` file are set correctly. See [“Define the Path to the License File or License Server”](#) on page 78 for more information.

---

### Note

IDL might use a license source different from `LM_LICENSE_FILE` if `IDL_LMGRD_LICENSE_FILE` is defined in a `.flexlmrc` file or as an environment variable. For more information, see [“Understanding License Sources”](#) on page 81.

---

# License Manager Startup

If the license manager gives an error message when starting, find the error message below and follow the instructions to eliminate the error.

## Invalid Server Hostname

```
date time (lmgrd) "Hostname1": Not a valid server hostname,
exiting.
date time (lmgrd) Valid server hosts are: "Hostname2"
```

In spite of the error message, *Hostname1* is the hostname of the server that probably *should* be in the license file, while *Hostname2* is the incorrect hostname currently in the license file. Edit your license file to contain the correct hostname.

## Inconsistent Encryption Code

```
date time (idl_lmgrd) Inconsistent encryption code for idl
```

There is a problem with the information on the FEATURE or INCREMENT line of the license file. Verify that the license key was entered correctly. Check capitalization and spacing, making sure it is exactly the same as in the license file sent to you. Finally, check to make sure that long lines in the license file have not been inadvertently wrapped to a new line.

## No Features to Serve

If you receive either of the following error messages:

```
No such feature exists.
```

or

```
date time (idl_lmgrd) No features to serve!
```

there are no valid FEATURE or INCREMENT lines. This is most commonly due to the “inconsistent encryption code” error described above.

## Retrying Socket Bind and Cannot Establish Lock

```
date time (lmgrd) Retrying socket bind (address in use: port 1700)
```

An attempt has been made to start the license manager when it was already running. This often happens when the license file contains a mistake, the mistake is corrected, and the license manager is started again before the first attempt has been shut down or killed. There might also be some other software product using the default port number, 1700.

**(Windows)** Stop the service using the LMTools utility and restart the service.

**(UNIX or Macintosh)** Issue the `lmdown` command multiple times and then restarting the license manager again. To shut down the license manager, you can issue the following commands:

```
RSI-DIR/idl_6.2/bin/lmdown -c RSI-DIR/license/license.dat
```

The `lmdown` command should be repeated until the utility indicates that the license manager is not running. Then restart the license manager. See [“Install the License Server Files”](#) on page 63.

If the problem occurs at boot time on UNIX or Macintosh, then it is possible that more than one instance of the boot time start-up script or command was implemented on your system. On Windows, be sure that only one RSI network license server has been configured to start automatically on that machine.

## No Such File or Directory

```
license daemon: execl failed: ../idl -T host 2.40 3 -c
license daemon: system error code: No such file or directory
```

The path on the DAEMON line of the license file is incorrect. It should point to the IDL directory. Edit the license file and correct the DAEMON line.

## No “License” Server Found

```
date time (lmgrd) No TCP "license" service exists.
```

This error means that no TCP/IP service port number is specified or no TCP/IP service is available.

Check for the existence of the `/etc/services` file. Make sure that the file contains the following line:

```
tcpmux          1/tcp
```

## Cannot Find License File

```
license manager: can't initialize: cannot find license file
(No such file or directory)
date time (lmgrd) Using license file "filename"
```

The license manager cannot find the `license.dat` file. Either the `license.dat` file is not in the default location or the file specified in the environment variable `LM_LICENSE_FILE` is incorrect. Also, make sure that the filename `license.dat` is spelled correctly and that you have read permission for the `license.dat` file.

---

### Note

IDL might use a license source different from `LM_LICENSE_FILE` if `IDL_LMGRD_LICENSE_FILE` is defined in a `.flexlmrc` file or as an environment variable. For more information, see [“Understanding License Sources”](#) on page 81.

---

## Cannot Read License File

```
license manager: can't initialize: cannot read license file
(Permission denied)
```

The permissions are set incorrectly on the `license.dat` file. Set the file to allow read permission for all users.

## Wrong Hostid for Server (Windows)

```
Wrong hostid on Server line for license file:
C:\RSI\LICENSE\LICENSE.DAT.
SERVER line says 000c0123454, hostid is 000c0abcde
Invalid host on SERVER line.
```

The hostid in the license file does not match the hostid of the machine. Verify that you are using the correct machine. You might need to request a corrected license file. Make sure that the license file has been correctly copied from the original information sent to you by RSI.

For additional assistance, see [“Contacting RSI”](#) on page 12.

## Wrong Hostid (UNIX)

```
date time (idl_lmgrd) Wrong hostid, exiting (expected xxxx, got
xxxx)
date time (lmgrd) Please correct problem and restart daemons
```

The permissions are set incorrectly on the ethernet device. This is a common problem on HP-UX systems. Set read-write permission on the ethernet device (`/dev/lan0`) with the command:

```
chmod 666 /dev/lan0
```

Shut down the license manager if it is still running and then restart it.

## Path Not Found (UNIX)

```
lmgrd: PATH/bin.platform/lmgrd: not found.
```

This error indicates that the IDL directory is not in a standard location and that the environment variable `IDL_DIR` is not set to the actual IDL directory. There are several solutions to the problem:

- Change directories to the IDL directory and issue the following command:
 

```
bin/lmgrd
```
- Set the environment variable `IDL_DIR` to point to the main IDL directory and then execute the `lmgrd` startup command.

Change directories to `RSI-DIR/idl_6.2/bin`. Make a copy of the `lmgrd` script:

```
cp lmgrd lmgrd.bak
```

Open the `lmgrd` script with an editor. Verify that the `INSTALL_DIR` environment variable is defined as `RSI-DIR`. For example, if you have installed in the default path, this should be defined as `/usr/local/rsi`.

## Invalid Server Hostname (UNIX)

```
date time (lmgrd) "Hostname1": Not a valid server hostname,
exiting.
date time (lmgrd) Valid server hosts are: "Hostname2"
```

In spite of the error message, *Hostname1* is the hostname of the server that probably *should* be in the license file, while *Hostname2* is the incorrect hostname currently in the license file. Edit your license file to contain the correct hostname.

Alternatively, if you have installed IDL on a laptop connected to a network that dynamically assigns IP addresses, make the following change to your `/etc/hosts` file:

### Warning

---

Improper changes to the `/etc/hosts` file can create network configuration problems. Consult a network administrator if you have questions about changing this file.

---

Copy the host name (not the hostID) of your laptop from the `SERVER` line in your `license.dat` file and add it to the `localhost` line of the `etc/hosts` file. For example, if the `localhost` line in your `/etc/hosts` file reads:

```
127.0.0.1 localhost
```

and the hostname for your laptop in the `license.dat` file is `mylaptop`, you would change the `localhost` line to read:


```
127.0.0.1 localhost mylaptop
```

If the server hostname is dynamically assigned, the license is used only by the license server machine. Another approach is to edit the license file so that the hostname on the `SERVER` line is replaced with the loopback IP address `127.0.0.1`. For example, if the `SERVER` line in the license data file reads:

```
SERVER mylaptop 0000123abcd 1700
```

use a plain text editor to change the line to read:

```
SERVER 127.0.0.1 0000123abcd 1700
```



Appendix B

# Running Older Versions of IDL

# Running Older Versions of IDL Concurrently with IDL 6.2

In many cases, it is possible to run older versions of IDL concurrently with the most recent version. If a FEATURE line has the version number 6.200, for example, it will allow IDL 6.2 and all earlier versions of IDL to run. In some cases, new license manager capabilities such as the INCREMENT line might prevent an older versions of IDL from working with the latest version of the license manager.

## Start the Latest Version of the License Manager

In general, it is important to start the license manager from the latest IDL distribution and use the same license file for the older IDL distribution. The license manager should only be started once, from the new distribution. It should not be started from an old IDL distribution.

## Using IDL Version 5.x with the IDL Version 6.2 License Manager

The license manager from IDL version 6.2 will support IDL 4.0 and 5.x clients. No modifications to the IDL 6.2 license file are necessary to run IDL 4.0 and IDL 5.x concurrently with IDL 6.2.





## Appendix C

# Customizing Your Floating Licenses

You can customize IDL license management by creating a license manager options file. This file lets you:

- Reserve licenses for specified users or groups of users
- Allow or disallow the use of IDL by certain users
- Control what events are recorded in the log file

To customize the license manager, create an options file in a text editor as described in the following section. See “[Sample Options Files](#)” on page 124 for examples.

## Creating an Options File

Use a text editor to create an options file. For RSI products, the options file must be named `idl_lmgrd.opt` and must be saved in the same directory as `license.dat`. The default location in which to save the options file is the `RSI-DIR/license` directory.

---

### Note

Whenever the options file is modified, the license manager must be stopped and restarted before the changes will take effect.

---

Use the following conventions when creating an options file:

- Specify each option on a separate line.
- Each line must begin with one of the keywords specified in the following table. See the following section “Options File Keywords” for a list of available keywords.
- Limit the length of each line to less than 2048 characters. You can use the backslash (\) as a line continuation character if you need more than 2048 characters.
- All elements of the options file are case sensitive so users and groups must be correctly and consistently identified.
- Lines beginning with the pound sign (#) are ignored and can be used as comments.

## Options File Keywords

The following table describes the keywords available for creating an options file:

Keyword	Example	Description
EXCLUDE	EXCLUDE <i>feature type type_name</i> EXCLUDE idl USER bob Excludes user “bob” from using IDL.	Can exclude user, group, host, or host_group from using IDL. EXCLUDE takes precedence over INCLUDE statements.
EXCLUDEALL	EXCLUDEALL <i>type type_name</i> EXCLUDEALL GROUP misfit Prevents the group “misfit” from using any of the features served by this vendor daemon.	Implicitly allows members of all groups except “misfit” to access all features served by this vendor daemon.
GROUP	GROUP <i>group user_list</i> GROUP visitor sam kate Defines users “sam” and “kate” as comprising the group “visitor”.	Defines a list of users to be used as a group with other keywords such as INCLUDE or EXCLUDE.
HOST_GROUP	HOST_GROUP <i>group host_list</i> HOST_GROUP main hal sam Defines hosts “hal” and “sam” as the group “main”.	Defines a list of hosts to be used as a group with other keywords such as INCLUDE or EXCLUDE.

Table C-4: Options File Keywords

Keyword	Example	Description
INCLUDE	INCLUDE <i>feature type type_name</i> INCLUDE idl GROUP visitor Allows only users in the group “visitor” to use IDL.	Includes only specifically identified users or groups. All others are implicitly outside of this group, and denied access.
INCLUDEALL	INCLUDEALL <i>type type_name</i> INCLUDEALL GROUP research Allows all users listed in the group “research” to use all features served by this vendor daemon.	Specifies users or groups allowed use of all features served by this vendor daemon.
LINGER	LINGER <i>feature seconds</i> LINGER idl 20 The license manager holds on to a license for an additional 20 seconds after it is checked in.	Causes licenses to be held by the license manager for a specific amount of time after a user exits IDL. Rarely used.
MAX	MAX <i>#lic feature type type_name</i> MAX 10 idl_rt GROUP research Allows users in the “research” group to use at most 10 units of the idl_rt feature at one time.	Limits usage of a feature among users or groups.
NOLOG	NOLOG <i>event_type</i> NOLOG DENIED NOLOG QUEUED	A separate NOLOG line is needed to turn off logging of events including IN, OUT, DENIED, and QUEUED.
REPORTLOG	REPORTLOG <i>report_log_path</i> REPORTLOG +RSI\license Specifies the reportlog file path.	The “+” indicates that the file is to be appended instead of being overwritten each time the manager is started.
RESERVE	RESERVE <i>#lic feature type type_name</i> RESERVE 10 idl USER sam Reserves a single IDL license for the user “sam”.	Ensures that an IDL license will always be available to a specified user or group.

Table C-4: Options File Keywords (Continued)

## Sample Options Files

### To Reserve Licenses for a Group

The following example shows how to define and reserve a number of licenses for a group of users, and tells the license manager not to log denied requests. Each copy of IDL requires 10 license units on a UNIX workstation-class machine. Comment lines begin with #.

```
# reserve 5 IDL licenses for the research group
RESERVE 50 idl GROUP research
# define the users in the research group
GROUP research josh hal bob kate beth
# exclude anyone on a computer with the name main
EXCLUDE idl HOST main
# do not log license denials
NOLOG DENIED
```

---

#### Note

When using INCLUDE or EXCLUDE, anyone not specifically mentioned on a list is implicitly excluded or included. For example, in the above file, everyone who is *not* working on a computer named “main” would be allowed to access IDL. An EXCLUDE statement takes precedence over an INCLUDE statement. If the user “josh” were working on a computer named “main,” he will not be able to access IDL even though there is a license reserved for him.

---

### To Reserve Licenses for Individuals

The following options file reserves licenses for individuals from the “research” group defined above. If you have a group of 10 people, you can specify that a license or licenses will always be available to certain users within that group by using the RESERVE keyword in an options file. The NOLOG line pertains to the IDL QUEUE command, which allows a user to wait for an IDL license instead of entering demonstration mode when a counted license is unavailable. It tells the log file not to record any queue events.

```
# reserve one license for "kate"
RESERVE 10 idl USER kate
# reserve one license for "josh"
RESERVE 10 idl USER josh
# reserve 3 licenses for "hal"
RESERVE 30 idl USER hal
# do not log queue events
NOLOG QUEUED
```