

SKUA[®] 2009.4 and GOCAD[®] 2009.4

Rock & Fluid Canvas[™] 2009 | Epos[®] 4.0 Rollup 3



Installation Guide

SKUA 2009.4

GOCAD 2009.4

Basic Developer Kit 2009.4

SKUA 2009.4 Developer Kit

Workflow Developer Kit 2009.4

License Server 11.6

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Before You Begin

About This Guide

This guide explains how to install the following products in both Linux and Microsoft Windows environments:

- Paradigm™ SKUA® 2009.4 and Paradigm™ GOCAD® 2009.4
- Basic Developer Kit 2009.4
- SKUA 2009.4 Developer Kit
- Workflow Developer Kit 2009.4
- License Server 11.6

To complete the installations described in this guide, you need some familiarity with the operating system on which you are installing the software.

Modules in This Release

Table 1 lists the modules included in SKUA 2009.4 and GOCAD 2009.4.

The installation process installs the entire suite of modules, and a license server controls access according to the licences that you purchase.

Note For information about the compatibility of SKUA and GOCAD with StratEarth® and other Paradigm products, see the *User Guide, Part I: Getting Started*.

Table 1 Modules in this release

Discipline	Module
Geosciences	3D Viewer Foundation Modeling and Editing Map, Cross Section and Log Display Structural Framework Builder (GOCAD only) SKUA Structure (SKUA only) SKUA Stratigraphy (SKUA only)

(Continued 1 of 2)

Discipline	Module
Interpretation	Advanced Structural Analysis (Kine3D®-1) ¹ 2D Restoration (Kine3D®-2) ¹ 3D Restoration (Kine3D®-3) ¹ Interpretation Modeling 3D Seismic Paleo-Restoration (SKUA only) Seismic Attribute Analysis Velocity Modeling and Time Depth Conversion Rock Volume Uncertainty Assessment (Alea®) ² (GOCAD only) Stratigraphic Modeling and Fault Analysis (GOCAD only) Well Correlation and Stratigraphic Analysis
Reservoir Modeling	3D Reservoir Grid Builder (GOCAD only) Reservoir Data Analysis Reservoir Properties Object Modeling Reservoir Risk Assessment (Jacta®) ² HP Reservoir Risk Assessment (Jacta® Cluster) ² Finite Element Mesh Constructor
Reservoir Production	Flow Simulation Grid (SKUA only) LGR and Upscaler Fracture Modeling (FracMV™) ³ Production Data Loader Production Data Analysis Reservoir Simulation Interface (ECLIPSE, 3DSL) Production Risk Assessment 3DSL Connection Production Risk Assessment FrontSim Connection
Drilling Planner	Basic Well Planning Side Track and Collision Risk
System and Complements	Epos® Link Remote Collaboration OpenSpirit Client 3D Magellan Mouse

(Continued 2 of 2)

1. Developed in cooperation with Institut Français du Pétrole (IFP).
2. Developed in cooperation with Total.
3. Developed in cooperation with Midland Valley.

Module Suites in This Release

Table 2 lists the module suites available in SKUA 2009.4 if you have the corresponding bundled license. A module suite is a predefined set of modules, which facilitate modeling and analysis activities that are often performed together, either successively or iteratively.

Table 2 SKUA module suites

Module suite	Description	Includes these modules
SKUA Architecture Bundle ¹	Facilitates next-generation modeling and moving existing models to the SKUA-enabled structural framework, stratigraphic grid, and reservoir simulation grid.	<ul style="list-style-type: none"> • SKUA Structure² • SKUA Stratigraphy² • SKUA Flow Simulation Grid² Also requires loading 3D Viewer; Foundation Modeling and Editing ² ; and Map, Cross Section and Log Display.

Module suite	Description	Includes these modules
SKUA Interpretation Modeling Bundle	Includes a comprehensive geomodeling solution based on UVT Transform™ technology. Facilitates modeling with interpretation workflows, velocity modeling, prospect validation, and paleo-flattening that you can apply to all exploration projects.	<ul style="list-style-type: none"> • 3D Viewer • Foundation Modeling and Editing² • Map, Cross Section and Log Display • SKUA Structure² • SKUA Stratigraphy² • Interpretation Modeling • 3D Seismic Paleo-Restoration • Seismic Attribute Analysis² • Velocity Modeling and Time Depth Conversion²
SKUA Reservoir Modeling Bundle	Includes a comprehensive reservoir modeling solution based on UVT Transform technology. Facilitates workflows that begin with structural framework creation and extending through reservoir data analysis, property modeling, uncertainty assessment, and reservoir model validation by flow simulation connection and production data analysis.	<ul style="list-style-type: none"> • 3D Viewer • Foundation Modeling and Editing² • Map, Cross Section and Log Display • SKUA Structure² • SKUA Stratigraphy² • Reservoir Properties • Reservoir Data Analysis • Object Modeling • Reservoir Risk Assessment (Jacta®) • SKUA Flow Simulation Grid¹ • LGR and Upscaler • Production Data Loader • Production Data Analysis • Reservoir Simulation Interface

1. Sometimes referred to as SKUA Upgrade Bundle.

2. Includes multi-core support for these modules.

Contents

	Before You Begin	iii
	About This Guide	iii
	Modules in This Release	iii
	Module Suites in This Release	iv
Chapter 1	Supported Operating Systems and Requirements	1-1
	1.1 Common System Requirements	1-2
	1.2 Specific Requirements for Supported Operating Systems.....	1-2
	1.3 Additional Software Requirements.....	1-3
	1.4 About Windows for x86 (32-Bit) and x64 (64-Bit) Systems	1-4
Chapter 2	Installing SKUA and GOCAD	2-1
	2.1 Installation Process	2-2
	2.2 Downloading SKUA, GOCAD, and Related Products	2-2
	2.3 Installing GOCAD and SKUA	2-4
	2.3.1 Installing GOCAD and SKUA on Linux	2-4
	2.3.2 Installing GOCAD and SKUA on Windows	2-6
	2.3.3 Configuring SKUA and GOCAD to Run from a Shared Location (Windows)	2-7
	2.4 Starting SKUA and GOCAD	2-9
	2.4.1 Starting an Epos Session with SKUA or GOCAD (Linux)	2-9
	2.4.2 Starting SKUA and GOCAD on Linux (Standalone)	2-11
	2.4.3 Starting SKUA and GOCAD on Windows	2-12
Chapter 3	Installing and Configuring License Server 11.6	3-1
	3.1 About License Server	3-2
	3.2 About Configuring Licenses for SKUA and GOCAD	3-3
	3.2.1 License Concepts	3-3
	3.2.2 License Types	3-3

- 3.2.3 License File Components 3-3
- 3.3 Installing or Upgrading License Server 11.6 on Linux 3-6
 - 3.3.1 Removing an Earlier Version of License Server 3-6
 - 3.3.2 Installing a New License Server 3-7
 - 3.3.3 Stopping License Server 3-8
- 3.4 Installing or Upgrading License Server 11.6 on Windows 3-9
 - 3.4.1 Removing an Earlier Version of the License Server 3-9
 - 3.4.2 Installing Dongle Device Drivers 3-10
 - 3.4.3 Installing a New License Server 3-10
- 3.5 Setting Up the License Option File—Basic Developer Kit (Developer-Based) 3-12
- 3.6 Updating the License File 3-13
- 3.7 Frequently Asked Questions About License Server 3-14
 - 3.7.1 How Do I Find the Host ID for My Computer? 3-14
 - 3.7.2 How Do I Switch from One License Server to Another? 3-15
 - 3.7.3 What Is the GOCADLMD_LICENSE_FILE Environment Variable? 3-16

Chapter 4 Installing Developer Kits 4-1

- 4.1 About Developer Products 4-2
- 4.2 Installation Process 4-2
- 4.3 About Qt 4-4
- 4.4 Installing Developer Kits 4-4
 - 4.4.1 Installing a Developer Kit on Linux 4-4
 - 4.4.2 Installing a Developer Kit on Windows 4-5
 - 4.4.3 Configuring a Developer Kit to Run from a Shared Location (Windows) 4-6
- 4.5 Setting Up the GOCAD_LICENSE Environment Variable 4-7

Supported Operating Systems and Requirements

In this chapter

- "Common System Requirements," page 1-2
- "Additional Software Requirements," page 1-3
- "Specific Requirements for Supported Operating Systems," page 1-2
- "About Windows for x86 (32-Bit) and x64 (64-Bit) Systems," page 1-4

Overview

Paradigm™ SKUA® 2009.4, Paradigm™ GOCAD® 2009.4, and the developer kits require specific hardware and software to operate properly. The following topics describe the requirements for each supported operating environment, specific requirements for each operating system, and additional software requirements.

1.1 Common System Requirements

Table 1–1 shows the minimum requirements for all operating environments.

Table 1–1 Common system requirements

Component	Requirement
Memory	4 GB or more recommended ¹
Total hard disk space for SKUA 2009.4 and GOCAD 2009.4	1.4 GB ² (700 MB each)
Additional hard disk space for developer kits	200 MB ³
Pointing device	Three-button pointing device such as a mouse or trackball

1. The memory requirements listed are for normal usage of SKUA and GOCAD. Large data sets can require additional memory.
2. Disk space should be increased if extensions from other vendors are installed or if data is installed on local hard drives. To optimize performance, we recommend that you work on data locally.
3. The 200 MB requirement for installation of developer kits is in addition to the hard disk space requirement for SKUA and GOCAD.

1.2 Specific Requirements for Supported Operating Systems

This section lists supported operating systems for each environment and the environment-specific hardware requirements. For the most up-to-date system requirements, see the System Requirements page:

- <http://skua-download.pdgm.com/sysreqs.php>
- <http://gocad-download.pdgm.com/sysreqs.php>

Table 1–2 Microsoft Windows for x86 Systems (32 bits)

Component	Requirement
Operating system	<ul style="list-style-type: none"> • Windows Vista (Business, Enterprise, or Ultimate Edition) • Windows XP Professional (Service Pack 2)¹
Hardware	<p>Processor. Intel Core, Core 2 Duo, Core 2 Quad, or Xeon class processor; or AMD Athlon, Opteron, or Phenom class processor recommended.</p> <p>Graphics adapter. 3D graphics adapter with a minimum resolution of 1280x1024 pixels supporting OpenGL. NVIDIA Quadro series recommended.</p>
Software	<p>Development environment. (For developer kits only) Qt development license, Microsoft Visual Studio 2005 Professional Edition Service Pack 1 and ActiveState ActivePerl 5.10. You can find ActivePerl at: http://www.activestate.com/.</p>

1. You can run the x86 versions of SKUA 2009.4 and GOCAD 2009.4 on Windows x64 systems.

Table 1–3 Microsoft Windows for x64 Systems (64 bits)

Component	Requirement
Operating system	<ul style="list-style-type: none"> • Microsoft Windows 7 Enterprise edition • Windows Vista x64 (Business, Enterprise, or Ultimate Edition) • Windows XP Professional x64 Edition (for more information, see "About Windows for x86 (32-Bit) and x64 (64-Bit) Systems" on page 1-4).
Hardware	<p>Processor. Intel Core, Core 2 Duo, Core 2 Quad, or Xeon class processor; or AMD Athlon, Opteron, or Phenom class processor recommended.</p> <p>Graphics adapter. 3D graphics adapter with a minimum resolution of 1280x1024 pixels supporting OpenGL. NVIDIA Quadro series recommended.</p>

(Continued 1 of 2)

Component	Requirement
Software	Development environment. (For developer kits only) Qt development license, Microsoft Visual Studio 2005 Professional Edition Service Pack 1 and ActiveState ActivePerl 5.10. You can find ActivePerl at: http://www.activestate.com/ .
(Continued 2 of 2)	

Table 1–4 Linux for x64 Systems (64 bits)

Component	Requirement
Operating system	Red Hat Enterprise Linux 4 and 5.
Hardware	Processor. Intel Core, Core 2 Duo, Core 2 Quad, or Xeon class processor; or AMD Athlon, Opteron, or Phenom class processor recommended. Graphics adapter. 3D graphics adapter with a minimum resolution of 1280x1024 pixels supporting OpenGL. NVIDIA Quadro series recommended.
Software	Video Driver. We recommend that you update to the latest NVIDIA driver. To download NVIDIA drivers, see http://www.nvidia.com/Download/index.aspx?lang=en-us . Development environment. (For developer kits only) <ul style="list-style-type: none"> • For Red Hat Enterprise Linux: GCC 3.4.3 compiler. • For Red Hat Enterprise Linux 5: GCC 4.1.2 compiler. • Qt development license.

1.3 Additional Software Requirements

Web browser

Windows environments. Accessing Help on Windows requires Microsoft Internet Explorer 6.0 or later with JavaScript enabled.

Linux environments. Accessing Help on Linux requires a browser that supports Java and JavaScript.

Workaround for Firefox 3 users

If you use Firefox 3.0.x to access Help, the hypertext links within the Help system do not work because Firefox version 3.0 has higher security settings than previous versions.

To work around this problem, follow these steps:

- 1 Open Firefox.
- 2 To access the advanced settings panel, in the address bar, type **about:config**.
- 3 When Firefox prompts you whether to proceed, click the **"I'll be careful, I promise"** button.
- 4 In the list of settings, change **security.fileuri.strict_origin_policy** to **false**.

Note This action disables a default security setting. If you are unsure whether this action is appropriate in your organization, consult your Information Technology department before proceeding.

Qt enterprise license (developer kits only)

Developers may need to purchase a Qt Enterprise License. For more information, see "About Qt" on page 4-4.

1.4 About Windows for x86 (32-Bit) and x64 (64-Bit) Systems

SKUA 2009.4 and GOCAD 2009.4 are available in packages that support Windows x64 (64-bit) systems. These packages are designed for Windows operating systems that run on processors of the x64 family made by Intel or Advanced Micro Devices (AMD).

You can use any 32-bit (x86) projects in the 64-bit (x64) version, but because x64 projects require more memory, not every 64-bit project will load in the 32-bit version.

You can install the 32-bit and 64-bit versions on the same x64 system. The versions are separated and do not interfere with each other.

Installing SKUA and GOCAD

In this chapter

- "Installation Process," page 2-2
- "Installing GOCAD and SKUA," page 2-4
- "Downloading SKUA, GOCAD, and Related Products," page 2-2
- "Starting SKUA and GOCAD," page 2-9

Overview

These topics explain how to install and start Paradigm™ SKUA® 2009.4 and Paradigm™ GOCAD® 2009.4 in Linux and Windows environments.

2.1 Installation Process

Table 2–1 summarizes the installation process and lists where you can find information about how to complete each step.

Important SKUA 2009.4 requires GOCAD 2009.4 to run. The SKUA installation process also requires that you first install GOCAD.

Table 2–1 Installation process

Step	For more information, see this topic
1 Download the GOCAD 2009.4 software.	"Downloading SKUA, GOCAD, and Related Products" on page 2-2
2 If you are installing SKUA, download the SKUA 2009.4 software.	"Downloading SKUA, GOCAD, and Related Products" on page 2-2
3 Install SKUA 2009.4 on the client computer.	"Installing GOCAD and SKUA" on page 2-4
4 If you are installing SKUA, repeat the installation procedure to install SKUA 2009.4 on the client computer.	"Installing GOCAD and SKUA" on page 2-4
5 If it is not installed already, install License Server 11.6 on the server for which the license file was issued.	Chapter 3, "Installing and Configuring License Server 11.6."
6 Start GOCAD 2009.4 and SKUA 2009.4 to verify the installation.	"Starting SKUA and GOCAD" on page 2-9

2.2 Downloading SKUA, GOCAD, and Related Products

You can download SKUA, GOCAD, and related products from either of these Paradigm download sites:

- <http://skua-download.pdgm.com/>
- <http://gocad-download.pdgm.com/>

All modules in the suite are packaged together.

If it is not installed already, the License Server program must be downloaded separately and installed on the computer that will serve licenses. For information about installation, see Chapter 3, "Installing and Configuring License Server 11.6."

If you purchased a developer kit, you also need to download this separately. For information about installation, see Chapter 4, "Installing Developer Kits."

Note Paradigm products are also available on DVD (by request). The DVD also includes License Server. If you have the DVD, you do not need to download the products from the Web site. For information about how to obtain a DVD, see "To request SKUA and GOCAD on DVD" on page 2-3.

For more information, see:

- "About the SKUA and GOCAD packages," page 2-3
- "To download SKUA, GOCAD, and related products," page 2-3
- "To request SKUA and GOCAD on DVD," page 2-3

About the SKUA and GOCAD packages

Figure 2–1 SKUA and GOCAD installation packages

Table 2–1 lists the SKUA 2009.4 and GOCAD 2009.4 packages. In the Windows environment, multiple packages are available to provide both 32-bit and 64-bit versions of the software.

Operating system description	Installation packages
Windows Vista or Windows XP (32 bits) - x86	<ul style="list-style-type: none"> • SKUA-2009.4-Windows-i86.msi • GOCAD-2009.4-Windows-i86.msi
Windows 7, Windows Vista, or Windows XP (64 bits) - x64	<ul style="list-style-type: none"> • SKUA-2009.4-Windows-x64.msi • GOCAD-2009.4-Windows-x64.msi
Red Hat Enterprise Linux 4 (64 bits) - x64	<ul style="list-style-type: none"> • SKUA-2009.4-Linux-amd64-re4.tar.gz • GOCAD-2009.4-Linux-amd64-re4.tar.gz
Red Hat Enterprise Linux 5 (64 bits) - x64	<ul style="list-style-type: none"> • SKUA-2009.4-Linux-amd64-re5.tar.gz • GOCAD-2009.4-Linux-amd64-re5.tar.gz

Note You can run the x86 Windows (32-bit) programs on x64 Windows (64-bit) systems.

To download SKUA, GOCAD, and related products

Downloading SKUA, GOCAD, and related products from the download site requires a logon name and password. This logon name and password are sent by e-mail along with the license file when you purchase a product. If you did not receive a logon name and password, contact Paradigm Customer Support at www.pdgm.com/support.

Important If you are installing SKUA, remember to download both GOCAD and SKUA. You must install GOCAD before you can install and run SKUA.

For each product that you want to download, do the following:

- 1 From the download page, <http://skua-download.pdgm.com/> or <http://gocad-download.pdgm.com/>, navigate to the product page for the specific product that you want to download.

- 2 Click the **Download** link that applies to your operating system.

Note Linux files are TAR archives (.tar files) compressed with gzip. Windows files are either a Microsoft installer (.msi file) or an executable (.exe file).

- 3 When the dialog box opens, type the supplied logon name in the **User name** box and the password in the **Password** box, and then click **OK**.

Note The user name and password entries are case-sensitive. If you did not receive a user name and password or if they do not work, contact Paradigm Customer Support at www.pdgm.com/support.

- 4 When you are prompted to save or open the file, save the file to your hard disk drive or a networked server.

To request SKUA and GOCAD on DVD

If you want a DVD of the SKUA and GOCAD software, contact Paradigm Customer Support at www.pdgm.com/support.

Packages on the DVD are categorized by operating system. For information about the naming convention, see "About the SKUA and GOCAD packages" on page 2-3.

2.3 Installing GOCAD and SKUA

Separate instructions are included for Linux and Windows environments. Complete the procedure that corresponds to your environment.

If you have not yet downloaded GOCAD and SKUA (if purchased), and you do not have the software on DVD, complete the procedure in "[Downloading SKUA, GOCAD, and Related Products](#)" on page 2-2 before you continue.

Important To install and run SKUA 2009.4, first complete the procedure to install GOCAD 2009.4, and then repeat the procedure to install SKUA 2009.4.

For more information, see:

- "[Installing GOCAD and SKUA on Linux](#)," page 2-4
- "[Installing GOCAD and SKUA on Windows](#)," page 2-6
- "[Configuring SKUA and GOCAD to Run from a Shared Location \(Windows\)](#)," page 2-7

2.3.1 Installing GOCAD and SKUA on Linux

All GOCAD and SKUA packages for Linux are installed by extracting a compressed archive into the main installation directory. All Paradigm products must reside under a common directory. The predefined directory name is PDGM.

If you plan to use GOCAD or SKUA on multiple Linux operating systems, you need to download and install the packages for each operating system. Multiple installations can reside in the same directory; the installation process handles correct file placement automatically.

Caution Do not move the PDGM directory contents. The subdirectories are specifically created by the installation process and must not change. You can rename the PDGM directory, but do not move or rename the subdirectories (for example, by using the **mv** command). Splitting the directories causes failures when GOCAD or SKUA starts.

The following topics provide information about how to install GOCAD and SKUA on Linux, configure GOCAD and SKUA to run in a Paradigm™ Epos® 4.0 environment, and configure OpenSpirit Client, an optional module. If you do not have a license for OpenSpirit Client or Epos, skip the related installation information.

- "[To install GOCAD and SKUA on Linux](#)," page 2-4
- "[To configure OpenSpirit Client on Linux](#)," page 2-5
- "[To configure GOCAD and SKUA to run in an Epos environment](#)," page 2-6

To install GOCAD and SKUA on Linux

- 1 Do one of the following:
 - If you downloaded the software and the file is not in the directory where you want to install the program, copy the file to the installation directory.
 - If you are installing the software from DVD, copy the package from the appropriate DVD to the installation directory.
- 2 To change to the installation directory, type the following command, where *installation_path_name* is a placeholder for the actual path name:


```
cd installation_path_name
```
- 3 Type the following command to extract the GOCAD files:

gunzip < GOCAD-2009.4-*platform*.tar.gz | tar xvf -

Where *platform* matches the operating system and processor from the package name.

- 4 If you are installing SKUA, type the following command to extract the SKUA files:

gunzip < SKUA-2009.4-*platform*.tar.gz | tar xvf -

Where *platform* matches the operating system and processor from the package name.

Important

- You cannot start GOCAD or SKUA until License Server 11.6 and the license file are correctly installed on the server computer for which the license file was issued. For more information, see [Chapter 3, "Installing and Configuring License Server 11.6."](#)
- If you have a license for Reservoir Simulation Interface and you want to launch flow simulations from GOCAD or SKUA, you need to create a run configuration file. For information, see the *Reservoir Simulation Interface Configuration Guide*.
- If you have a license for High-Performance Reservoir Risk Assessment (Jacta® Cluster) and you want to run Jacta simulations on a cluster network, you need to install and configure a batch management system. For information, see the *High-Performance Reservoir Risk Assessment (Jacta Cluster) Configuration Guide*.

Note When installing a Linux archive on a Solaris file server, the extraction may fail because of differences between Solaris and Linux archive formats. In that case, you will need to apply patch 110951-01 on the **tar** extraction utility. You can verify the size of the archives by checking them at: <http://skua-download.pdgm.com/> or <http://gocad-download.pdgm.com/>.

Installing the package creates the PDGM directory. The main executable is in: `/opt/PDGM/GOCAD-SKUA-2009.4/bin`.

To configure OpenSpirit Client on Linux

If you have an OpenSpirit Client license, you must specify where OpenSpirit (the third-party program licensed by OpenSpirit Corporation) is installed on your computer; otherwise, OpenSpirit Client cannot connect to it. Although there is more than one method for specifying the location of OpenSpirit, we recommend that you save the `OSP_HOME` environment variable in your user profile as explained in the following procedure. If you installed an earlier version of GOCAD or SKUA and you already completed this procedure, you do not need to do it again.

On Windows, the OpenSpirit Windows installer sets the `OSP_HOME` environment variable on the computer automatically, so no additional configuration is necessary. The following procedure applies to Linux operating systems only.

- ◆ Assuming OpenSpirit (the client program licensed by OpenSpirit Corporation) is installed in the `/appl/openspirit` directory, edit your Linux user profile to set the environment variable `OSP_HOME` according to your shell type as follows:
 - If you are using the C shell, type:
setenv OSP_HOME /appl/openspirit
 - If you are using the Korn or Bourne shell, type:
export OSP_HOME= /appl/openspirit

If OpenSpirit is installed in a different location, substitute the correct path.

Note If you want to use a different OpenSpirit installation temporarily, you can set the `OSP_HOME` variable in the shell that you are starting SKUA or GOCAD from. Assuming OpenSpirit is installed in `appl/openspirit/openspirit-x.x.x`, for example:

- If you are using the C shell:
setenv OSP_HOME /appl/openspirit/openspirit-x.x.x
- If you are using the Korn or Bourne shell:
export OSP_HOME=/appl/openspirit/openspirit-x.x.x

To configure GOCAD and SKUA to run in an Epos™ environment

If you have Epos installed and you have an Epos Link license, you can configure GOCAD and SKUA (if installed) to run as Epos applications, available from the Paradigm Session Manager.

- 1 After you install GOCAD and SKUA (if applicable), as the Epos administrator, run the script **PG_epos_config**, located in the following directory: *Epos4 root directory/Epos4/bin/*.
- 2 Select the Runtime Variables and set **GOCADLMD_LICENSE_FILE** to the location of the license file used by GOCAD and SKUA.

Note For more information about licensing, see "[About Configuring Licenses for SKUA and GOCAD](#)," page 3-3.

- 3 Set the **PG_GOCAD_PATH** to the directory location where GOCAD and SKUA (if applicable) have been installed.

For more information about installing and configuring Epos applications, see the *Rock & Fluid Canvas 2009 | Epos 4.0 Installation Guide*.

2.3.2 Installing GOCAD and SKUA on Windows

Complete the following procedure to install GOCAD and SKUA on Windows.

Important

- To install and run SKUA 2009.4, complete the procedure to install GOCAD 2009.4 first, and then repeat the procedure to install SKUA 2009.4.
- We recommend that you have Administrator rights enabled when you install GOCAD and SKUA. You can either log on as an account with Administrator rights, or you can right-click the GOCAD or SKUA installation file (.msi), point to **Run As** on the shortcut menu, click **the following user** option, enter the user name, type the corresponding password, and then click **OK**.

To install GOCAD and SKUA on Windows

- 1 If you downloaded the software, double-click the downloaded file.

– or –

If you are installing GOCAD and SKUA from DVD, do the following:

- a Place the DVD for the Windows version of the software in your DVD drive, open **My Computer**, and double-click the DVD name to display the DVD contents.
- b Locate the folder on the DVD that contains one of the following files, choosing the appropriate one for your operating system, and then double-click the file:
 - For Windows Vista or Windows XP for x86 systems (32 bits), double-click **GOCAD-2009.4-Windows-i86.msi** or **SKUA-2009.4-Windows-i86.msi**.

- For Windows 7, Windows Vista, or Windows XP for x64 systems (64 bits), double-click **GOCAD-2009.4-Windows-x64.msi** or **SKUA-2009.4-Windows-x64.msi**.

Whether you are using a DVD or a downloaded file, the installation wizard opens after a few moments.

- 2 Follow the instructions in the installation wizard.

Important

- When GOCAD or SKUA is installed on a server, it will not run on a local computer unless the runtime library Microsoft Visual C++ 2005 SP1 Redistributable Package that corresponds to the processor architecture of the GOCAD or SKUA installation (x86 or x64) is installed on that computer. If you encounter a configuration error or a prompt to reinstall the application, complete the procedure in "[Configuring SKUA and GOCAD to Run from a Shared Location \(Windows\)](#)" on page 2-7.
- You cannot start GOCAD or SKUA until License Server 11.6 and the license file are correctly installed on the server computer for which the license file was issued. For more information, see [Chapter 3, "Installing and Configuring License Server 11.6."](#)
- If you have a license for Reservoir Simulation Interface and you want to launch flow simulations from GOCAD or SKUA, you must create a run configuration file. For information, see the *Reservoir Simulation Interface Configuration Guide*.

2.3.3 Configuring SKUA and GOCAD to Run from a Shared Location (Windows)

If you are installing SKUA and GOCAD (or a related developer kit) on a server in a Windows environment, you must ensure that Microsoft Visual C++ 2005 Redistributable Package is installed on each local computer from which you will run the program.

If Microsoft Visual C++ 2005 Redistributable Package is not installed, perform the following steps.

Notes

- To perform this procedure, you must have Administrator rights.
- You do not need to perform this procedure if you are installing SKUA or GOCAD (or a related developer kit) to run on a local computer. For local installations, the installation program automatically installs the runtime library for your environment.

To configure SKUA and GOCAD to run from a shared location (Windows only)

The following example assumes that the local client computer can access SKUA and GOCAD through a UNC path to \\FileServer\Application corresponding to the SKUA and GOCAD installation.

- 1 On the local client where SKUA and GOCAD will be run, navigate to \\FileServer\Application\PDGM\GOCAD-SKUA-2009.4\Redist, and then do one of the following:
 - For Windows x86 systems (32 bit), locate and double-click the file **vcredist_x86.exe** to run it.

- For Windows x64 systems (64 bit), locate and double-click the file **vcredist_x64.exe** to run it.

Note For a network installation, navigate to this folder in the installation on the network or obtain the file from Microsoft:

- **x86 (32 bit).** <http://www.microsoft.com/downloads/details.aspx?FamilyID=200b2fd9-ae1a-4a14-984d-389c36f85647&DisplayLang=en>.
 - **x64 (64 bit).** <http://www.microsoft.com/downloads/details.aspx?FamilyID=eb4ebe2d-33c0-4a47-9dd4-b9a6d7bd44da&displaylang=en>.
- 2 If you see a message directing you to restart your computer, restart your computer to complete the installation.

2.4 Starting SKUA and GOCAD

We recommend that you start GOCAD and SKUA (if applicable) to ensure the products are installed correctly. Complete the procedure that corresponds to your environment.

- "Starting an Epos Session with SKUA or GOCAD (Linux)," page 2-9
- "Starting SKUA and GOCAD on Linux (Standalone)," page 2-11
- "Starting SKUA and GOCAD on Windows," page 2-12

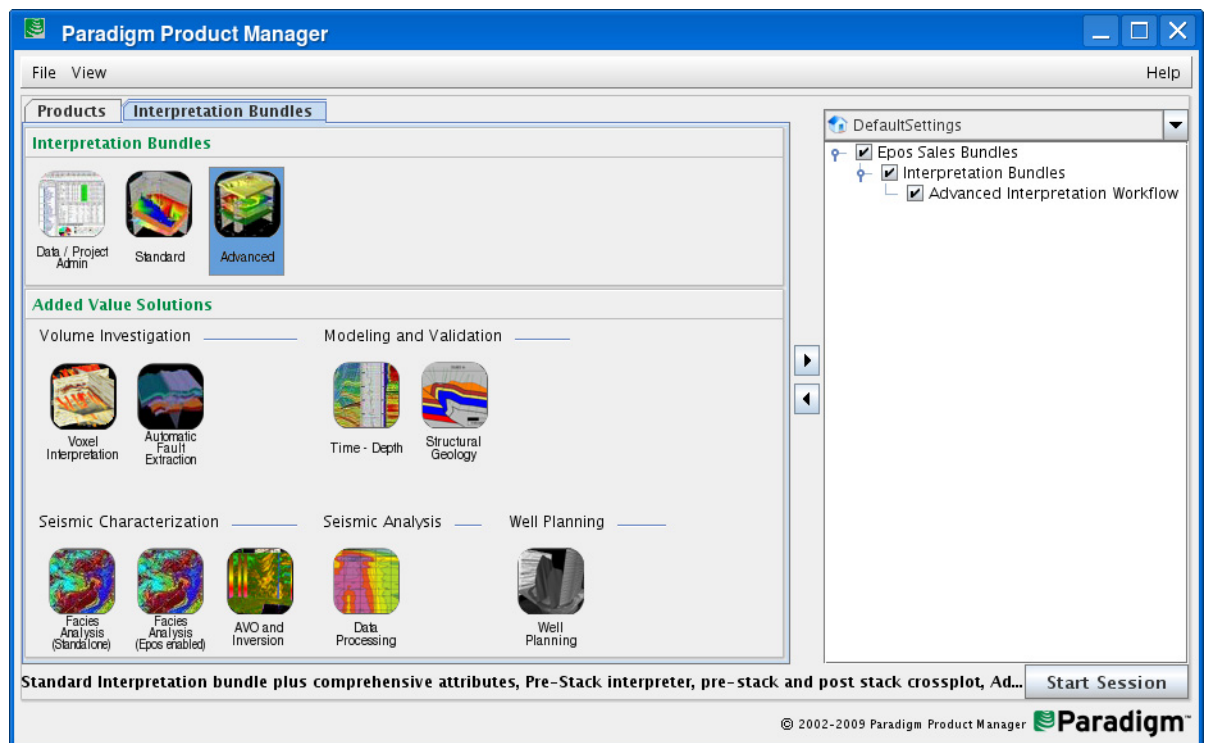
2.4.1 Starting an Epos Session with SKUA or GOCAD (Linux)

Complete this procedure if you configured GOCAD and SKUA (if installed) to run as Epos applications, available from the Paradigm Session Manager.

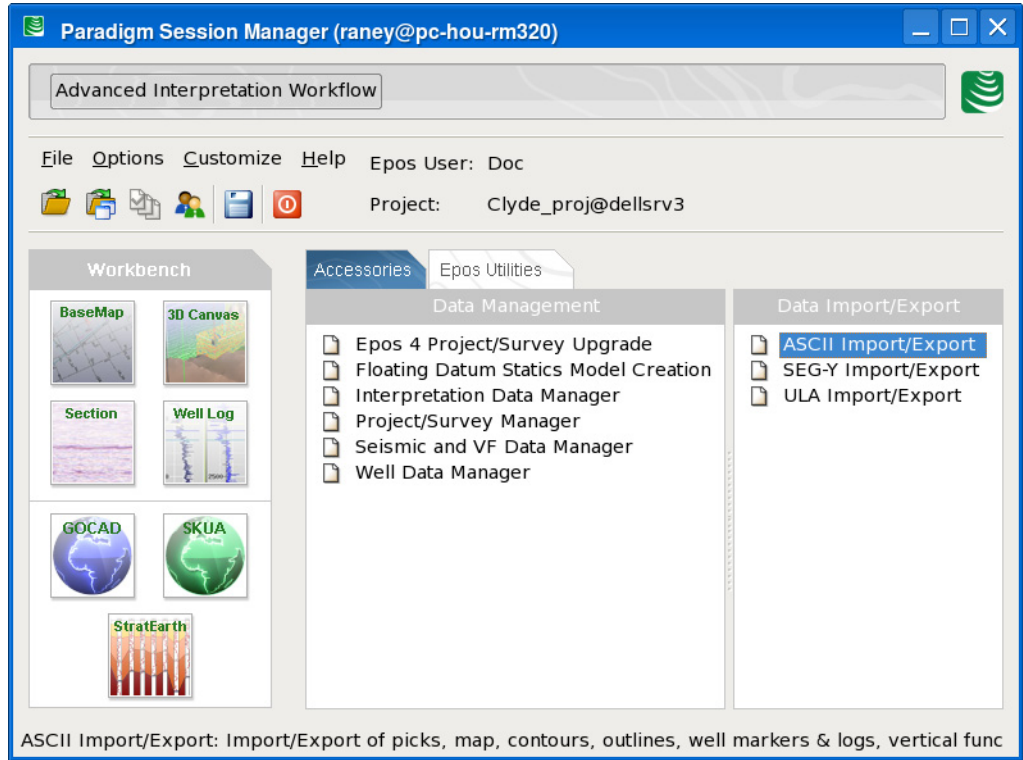
To start an Epos session and open SKUA or GOCAD

- 1 Start the Paradigm Product Manager by typing the following at a command prompt, where *InstallationPath* is the Epos installation path:

InstallationPath/PPM

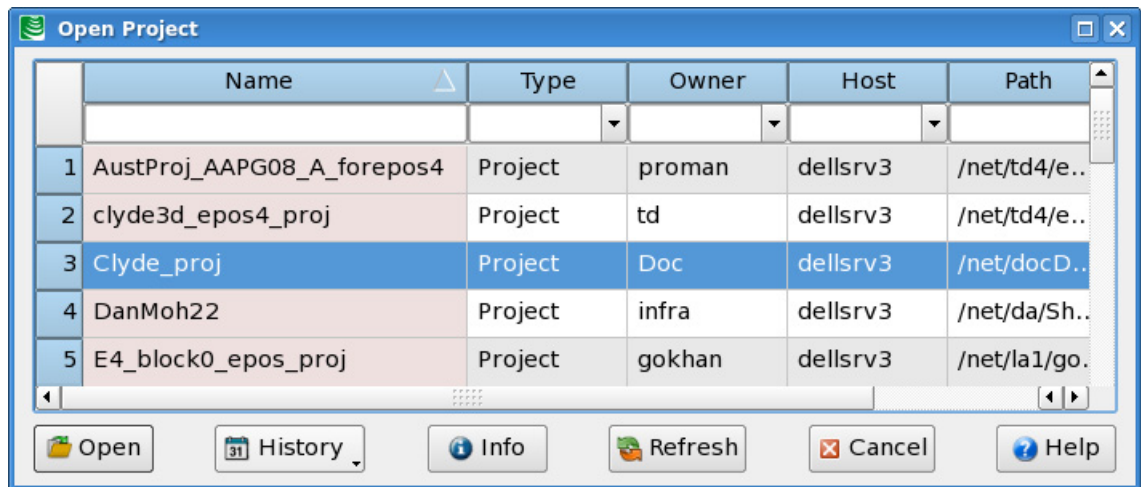


- In the Paradigm Product Manager, click the **Interpretation Bundles** tab, click the **Standard** or **Advanced** icon, and then click **Start Session** to start the Paradigm Session Manager.



The Paradigm Session Manager shows the products that are available with the bundles that you selected.

- Click the **SKUA** or **GOCAD** icon.
If a project is already open in the active session, SKUA or GOCAD automatically starts. Otherwise, the **Open Project** window opens for you to select an Epos project.



- In the **Open Project** window, select an Epos project, and then click **Open**. (For information about filtering and selecting data in this window, click **Help** at the bottom of the window.)

Tip For more information about starting the program, creating and opening projects, and sharing data with Epos applications, see the *User Guide, Part I: Getting Started*.

When you start SKUA or GOCAD, you need to specify the SKUA or GOCAD project that you want to use to share data with the Epos project. The **Open Existing or New Project** dialog box opens for you to create or select a SKUA or GOCAD project.

- 5 Click **New Project**, find and open a folder, type a name in the **File name** box, and then click **Save** to open the **Project Module Selector**.
- 6 Do one of the following:
 - To select all available modules, click **Select All**, and then click **OK**.
 - To select modules individually, click each tab and select the check box next to each module that you want to load, and then click **OK**.

A splash screen appears as the program loads the selected modules. The program opens and prompts you to choose project units.

- 7 In the **Initialize Project Units** dialog box, select from the options and then click **OK**. For more information about project units, see the *User Guide, Part I: Getting Started*.

2.4.2 Starting SKUA and GOCAD on Linux (Standalone)

You cannot start SKUA or GOCAD until License Server 11.6 and the license file are correctly installed on the server computer for which the license file was issued. For more information, see [Chapter 3, "Installing and Configuring License Server 11.6."](#)

After SKUA and GOCAD are installed, License Server is set up, and the license is configured, you can start SKUA or GOCAD and connect to License Server.

To start SKUA, GOCAD, and GOCAD Viewer on Linux

- 1 To start SKUA, type the following command at a command prompt:

```
/opt/PDGM/GOCAD-SKUA-2009.4/bin/SKUA
```

– or –

To start GOCAD, type the following command at a command prompt

```
/opt/PDGM/GOCAD-SKUA-2009.4/bin/Gocad
```

– or –

To start only the GOCAD Viewer, type the following command at a command prompt:

```
/opt/PDGM/GOCAD-SKUA-2009.4/bin/Gocad-Viewer
```

Note If you installed SKUA and GOCAD in a different location, substitute the correct path.

[Table 2–2 on page 2-12](#) lists common options that you can add to the command, including options you can use to load a SKUA module suite if you have a license for one.

The **Open Existing or New Project** dialog box opens.

Note If SKUA or GOCAD cannot connect to License Server, you will receive an error message. To configure License Server, set the GOCADLMD_LICENSE_FILE environment variable to *port@host*, where *port* is the TCP/IP number (typically 27000) and *host* is the name (or IP address) of the computer on which License Server is installed. (If you did not change the default port value for License Server, you can omit it.) If you do not know these values, contact your license administrator. Examples are @192.68.1.1 or 23456@license-server.

Tip For more information about starting the program, creating a project, and opening existing projects, see the *User Guide, Part I: Getting Started*.

- 2 Click **New Project**, find and open a folder, type a name in the **File name** box, and then click **Save** to open the **Project Module Selector**.
- 3 Do one of the following:
 - To select all available modules, click **Select All**, and then click **OK**.
 - To select modules individually, click each tab and select the check box next to each module that you want to load, and then click **OK**.

Note If you used the `-bundle` option to load a SKUA module suite, all modules in the module suite are selected. You can load modules individually only if you have individual (non-bundled) licenses for those modules. Along with a module suite, you can load any additional modules for which you have licenses.

A splash screen appears as the program loads the selected modules. The program opens and prompts you to choose project units.

- 4 In the **Initialize Project Units** dialog box, select from the options and then click **OK**. For more information about project units, see the *User Guide, Part I: Getting Started*.

Table 2–2 Startup options

Option	Description
<code>-help</code>	Lists all options that you can use when starting SKUA or GOCAD.
<code>-all-plugins</code>	Loads all of the modules for which a license is available ¹ . If you use this option, the Project Modules Selector does not appear during startup.
<code>-bundle=<i>ModuleSuiteName</i></code>	Loads the specified SKUA module suite. Valid values for <i>ModuleSuiteName</i> are: <ul style="list-style-type: none"> • skua_architecture • skua_interpretation • skua_reservoir modeling Specify only one module suite. For more information about the module suites available in SKUA, see "Module Suites in This Release" on page iv.
<code>-user-level Advanced</code>	Presets the user level to Advanced when you start the program. You may find this option useful, for example, if you create a script or a shortcut to set the initial user preferences for many users. For information about the Advanced user level, see the <i>User Guide, Part I: Getting Started</i> .

1. If you have both SKUA and GOCAD, only those modules that are compatible with SKUA will load in SKUA, and only GOCAD-compatible modules will load in GOCAD.

Note The `-plug-in` option is no longer the recommended method to start custom modules. We recommend that plugin developers provide a custom package file. For information about package files, see the developer documentation provided with the developer kit that is located at the following path: *InstallationPath*\PDGM\GOCAD-SKUA-2009.4\doc\devkit-doc\Gocad-devkit.chm file. The package information is located in the Overviews section under Plugin Manager.

2.4.3 Starting SKUA and GOCAD on Windows

You cannot start SKUA or GOCAD until License Server 11.6 and the license file are correctly installed on the server computer for which the license file was issued. For more information, see [Chapter 3, "Installing and Configuring License Server 11.6."](#)

After SKUA and GOCAD are installed, License Server is set up, and the license is configured, you can start SKUA or GOCAD and connect to License Server.

For information about startup options that you can use when you start SKUA and GOCAD, see [Table 2–2 on page 2-12](#).

Complete the procedure that corresponds to your operating system.

- "To start SKUA and GOCAD on Windows x86 Systems (32 bits)," page 2-13
- "To start SKUA or GOCAD on Windows x64 Systems (64 bits)," page 2-14

To start SKUA and GOCAD on Windows x86 Systems (32 bits)

- 1 Do one of the following:
 - To start SKUA or GOCAD, on the Windows desktop, double-click the program shortcut **Paradigm SKUA 2009.4** or **Paradigm GOCAD 2009.4**.
 - To start SKUA and load a module suite, on the Windows taskbar, click the **Start** button, click **All Programs**, click **Paradigm**, click **SKUA 2009.4**, and then click one of the following:
 - **Paradigm SKUA 2009.4 (SKUA Architecture Bundle)**
 - **Paradigm SKUA 2009.4 (SKUA Interpretation Modeling Bundle)**
 - **Paradigm SKUA 2009.4 (SKUA Reservoir Modeling Bundle)**

For information about SKUA module suites, see "[Module Suites in This Release](#)" on page iv.

- 2 If you are starting SKUA or GOCAD for the first time and the **FLEXnet License Finder** dialog box opens, do the following:
 - a Select **Specify the License Server**, and then click **Next**.
 - b Type a *port@host* value where *port* is the TCP/IP number (typically 27000) and *host* is the name (or IP address) of the computer on which License Server is installed. If you do not know these values, contact your license administrator.
 - c Click **OK**.

After you connect to License Server, the **Open Existing or New Project** dialog box opens.

- 3 Click **New Project**, find and open a folder, type a name in the **File name** box, and then click **Save** to open the **Project Module Selector**.
- 4 Do one of the following:
 - To select all available modules, click **Select All**, and then click **OK**.
 - To select modules individually, click each tab and select the check box next to each product that you want to load, and then click **OK**.

Note If you loaded a SKUA module suite, all modules in the module suite are selected. You can load modules individually only if you have individual (non-bundled) licenses for those modules. Along with a module suite, you can load any additional modules for which you have licenses.

A splash screen appears as the program loads the selected modules. The program opens and prompts you to choose project units.

- 5 In the **Initialize Project Units** dialog box, select from the options, and then click **OK**. For more information about project units, see the *User Guide, Part I: Getting Started*.

Tip For more information about starting the program, creating a project, and opening existing projects, see the *User Guide, Part I: Getting Started*.

**To start SKUA or
GOCAD on
Windows x64
Systems (64 bits)**

Important There is a known problem with the FLEXnet License Finder on all Windows x64 versions. The tool does not accept any license server information and always reports, "The License Server returned a networking error. See your System Administrator for assistance." The issue has been reported to Macrovision, but a corrected version of FLEXnet is not yet available. Complete the following procedure to work around the issue.

- 1 Set the environment variable on the client computer that is running SKUA or GOCAD:
 - a Click the **Start** button, click **Settings** (if you are using the Classic Start menu), and then click **Control Panel**.
 - b Do one of the following:
 - In Windows XP, double-click **System**.
 - In Windows Vista or Windows 7, click **System**, and then click **Advanced system settings** (on the left side of Control Panel).
 - c In the **System Properties** dialog box, click the **Advanced** tab, and then click **Environment Variables** to open the **Environment Variables** dialog box.
 - d Under the **User variables** category, click **New** to open the **New User Variable** dialog box.
 - e In the **Variable name** box, type **GOCADLMD_LICENSE_FILE**; in the **Variable value** box, type the information to access License Server; and then click **OK**.

For the value in the **Variable value** box, use the format *port@host*, where *port* is the TCP/IP number (typically 27000) and *host* is the name (or IP address) of the computer on which License Server is installed. (If you did not change the default port value for License Server, you can omit it.) If you do not know these values, contact your license administrator.
 - f In the **Environment Variables** dialog box, check that GOCADLMD_LICENSE_FILE is defined as, for example, @192.68.1.1 or 23456@license-server, and then click **OK**.
 - g In the **System Properties** dialog box, click **OK**.
- 2 Do one of the following:
 - To start SKUA or GOCAD, on the Windows desktop, double-click the program shortcut **Paradigm SKUA 2009.4 (64-bits)** or **Paradigm GOCAD 2009.4 (64-bits)**.
 - To start SKUA and load a module suite, on the Windows taskbar, click the **Start** button, click **All Programs**, click **Paradigm**, click **SKUA 2009.4 (64-bits)**, and then click one of the following:
 - **Paradigm SKUA 2009.4 (SKUA Architecture Bundle)**
 - **Paradigm SKUA 2009.4 (SKUA Interpretation Modeling Bundle)**
 - **Paradigm SKUA 2009.4 (SKUA Reservoir Modeling Bundle)**

For information about SKUA module suites, see "[Module Suites in This Release](#)" on page iv.

The program starts immediately, without displaying the FLEXnet License Finder, and the **Open Existing or New Project** dialog box opens.

Tip For more information about starting the program, creating a project, and opening existing projects, see the *User Guide, Part I: Getting Started*.

- 3 Click **New Project**, find and open a folder, type a name in the **File name** box, and then click **Save** to open the **Project Module Selector**.
- 4 Do one of the following:
 - To select all available modules, click **Select All**, and then click **OK**.
 - To select modules individually, click each tab and select the check box next to each module you want to load, and then click **OK**.

Note If you loaded a SKUA module suite, all modules in the module suite are selected. You can load modules individually only if you have individual (non-bundled) licenses for those modules. Along with a module suite, you can load any additional modules for which you have licenses.

A splash screen appears as the program loads the selected modules. The program opens and prompts you to choose project units.

- 5 In the **Initialize Project Units** dialog box, select from the options and then click **OK**. For more information about project units, see the *User Guide, Part I: Getting Started*.

Installing and Configuring License Server 11.6

In this chapter

- "About License Server," page 3-2
- "About Configuring Licenses for SKUA and GOCAD," page 3-3
- "Installing or Upgrading License Server 11.6 on Linux," page 3-6
- "Installing or Upgrading License Server 11.6 on Windows," page 3-9
- "Setting Up the License Option File—Basic Developer Kit (Developer-Based)," page 3-12
- "Updating the License File," page 3-13
- "Frequently Asked Questions About License Server," page 3-14

Overview

Before you can start Paradigm™ SKUA® 2009.4 or Paradigm™ GOCAD® 2009.4, you need to install and configure the license server program. The following describes how to do this for both Linux and Windows environments.

3.1 About License Server

A *license server* is a program that makes software licenses available to another program (a *client program*). SKUA 2009.4 and GOCAD 2009.4 require a license server based on FLEXnet from Acrecco Software (<http://www.acresso.com>) to control program usage according to the licenses purchased. Because our license server is built with FLEXnet 11.6, we refer to our product as License Server 11.6.

Important SKUA 2009.4 and GOCAD 2009.4 will work only with License Server 11.6 or later. If you are already using a license server released by Paradigm or another vendor, you must upgrade to this version.

License Server is distributed as a separate package and must be downloaded separately.

License Server is backward-compatible with earlier licenses: The latest version of the License Server can also provide licenses for earlier versions of Paradigm products.

3.2 About Configuring Licenses for SKUA and GOCAD

All Paradigm products are licensed. You must have a license for the products you have installed before you can use them.

These topics provide information for system administrators and users about licenses. For information about types of licenses and license file components, see "[License Types](#)" on page 3-3 and "[License File Components](#)" on page 3-3.

Note For more information about License Server administration tools, see the *FLEXnet Licensing End User Guide*. The user guide is available on the Macrovision Web site at: http://www.globes.com/support/generic/utilities/flexnet_licensing_end_user_guide.pdf.

3.2.1 License Concepts

SKUA and GOCAD act as client programs that connect to a license server program to gain authorization for accessing certain software features. SKUA and GOCAD connect to the program License Server 11.6 for this purpose.

You can install License Server, SKUA, and GOCAD on the *same* computer. You must install License Server on the computer for which the license file is issued. The name of this computer is listed on the SERVER line in the license file. For more information and an example, see "[SERVER lines](#)" on page 3-4.

3.2.2 License Types

Licenses for Paradigm products are server-based, which means a license server must be installed before you can run the program. The licenses can be permanent or temporary. They have a limited number of *tokens*, which are the number of available concurrent usages. Client computers connect to License Server to gain the right to run the licensed software.

There are two types of licenses:

- **Shared.** If you receive a shared license, License Server is installed on a computer connected to a network. SKUA and GOCAD can run on the same computer or on another computer and use the network to connect to License Server. License Server must run on the computer for which the license was issued. This computer is listed on the SERVER line in the license file. For an example, see "[SERVER lines](#)" on page 3-4.
- **Host-locked.** If you receive a host-locked license, SKUA, GOCAD, and License Server can run on only one computer. The name of the computer for which the license is issued is listed on the SERVER line and in the INCREMENT paragraph in the license file. For more information and examples, see "[License File Components](#)" on page 3-3. Host-locked licenses are typically issued for running SKUA and GOCAD on a notebook computer that is not connected to a network.

3.2.3 License File Components

License files are text files that include paragraphs and lines of text. Understanding license files is helpful when you troubleshoot problems or talk to Paradigm Customer Support (www.pdgm.com/support).

SERVER and VENDOR Lines

SERVER lines

License Server must be installed on the computer listed on the SERVER line in the license file. The file includes only one SERVER line for a standard license server; whereas, the file includes three lines for triple redundancy servers. With triple redundancy, if one server fails, the two remaining servers take over and perform as the license server. The three servers store the same information and must be able to communicate through the network at any time.

SERVER lines are formatted as follows:

```
SERVER license-server 123456789012 27000
```

where:

license-server is the server name. (The license administrator can change this name.)

123456789012 is the server computer FLEXnet Host ID. (Do not change this number. Any change to it invalidates the license.)

27000 is the TCP/IP port number. (The license administrator can change this number.)

License Server listens to at least one TCP/IP port so that clients can connect to the license server on that port. By default, the TCP/IP port used by License Server is 27000.

If a third-party product license server is using the 27000 default port, you may change the port from 27000 to an unused one.

If you change the port, the new port number must be communicated to end users because it is needed when starting SKUA or GOCAD for the first time. See "[Starting SKUA and GOCAD](#)" on page 2-9.

VENDOR lines

The license file can include one VENDOR line for all server-based license files for Paradigm products. VENDOR lines are formatted as follows:

```
VENDOR gocadlmd
```

where: *gocadlmd* is the name of the license service program for Paradigm products.

INCREMENT Paragraphs

INCREMENT paragraphs define the characteristics of the license: its duration, the number of tokens, and so on. The license file includes an increment for each product or feature that you purchased.

Important Any change to the INCREMENT paragraphs invalidates the license.

INCREMENT paragraphs are formatted as follows:

```
INCREMENT gocad_base gocadlmd 200512.31 31-dec-2010 50 \
5BCF5BEB731B HOSTID=1234567890ab SUPERSEDE \
ISSUED=16-Aug-2009 ck=118 SN=... \
START=10-May-2009 SIGN=... \
SIGN2=...
```

where:

gocad_base	is the feature name corresponding to this increment.
200512.31	is the maintenance expiration date. This license allows users to run Paradigm products released before that date.
31-dec-2010	is the license expiration date. The date is "permanent" for permanent licenses.
50	is the number of tokens (available concurrent usages) in the license
HOSTID= 1234567890ab	Indicates that the INCREMENT package is locked on the server computer that has FLEXnet Host ID 1234567890ab. This line is present in all host-locked licenses.

3.3 Installing or Upgrading License Server 11.6 on Linux

The following sections describe how to either upgrade from an earlier version of License Server or perform a fresh installation in a Linux environment.

It is necessary to install License Server 11.6 on only the server computer for which the license file is issued. In larger organizations, License Server is installed on a server computer while SKUA and GOCAD are installed on many client computers. With this scenario, if your computer is one of the client computers, you do not need to install License Server on it.

If you are upgrading an earlier version of License Server to the latest version, see ["Removing an Earlier Version of License Server"](#) on page 3-6. If you are performing a new installation, complete the procedures in ["Installing a New License Server"](#) on page 3-7.

3.3.1 Removing an Earlier Version of License Server

The following describes how to remove the version of License Server that controlled access to earlier versions of Paradigm products.

A license server may not be installed on your computer if you were using a license file that was installed on a remote server or if you were using a type of license, called a node-locked, serverless license, that did not require a license server.

To remove an earlier version of License Server

- 1 Shut down License Server by typing the following command in the installation directory for the server program:

```
cd InstallationPath/PDGM/Licenses  
./lmdown
```

Where *InstallationPath* is the path to the PDGM installation directory.

- 2 Ensure that the script that starts License Server at boot time is disabled.
- 3 Ensure that you keep a copy of your old license file. You can name it, for example, gocadlmd.bak.

Note Your current license file should have the path name *InstallationPath*/PDGM/Licenses/gocadlmd.lic.

- 4 If you have an option file for the Basic Developer Kit (Developer-Based) license, gather the list of user names that you want to authorize to access the license.

For information about the option file, see ["Setting Up the License Option File—Basic Developer Kit \(Developer-Based\)"](#) on page 3-12.

- 5 Remove all of the files in the *InstallationPath*/PDGM/Licenses folder that were distributed with the previous version of the License Server. These files include lmgrd, gocadlmd, lmutil.

After you remove the earlier version of License Server, you can install License Server 11.6.

3.3.2 Installing a New License Server

Complete the following procedures to install a new License Server in a Linux environment.

For information and instructions, see:

- "To create a dedicated account for License Server," page 3-7
- "To download License Server files," page 3-7
- "To install License Server," page 3-7
- "To install the license file," page 3-7
- "To set up the license option file—Basic Developer Kit (Developer-Based)," page 3-8
- "To start License Server," page 3-8

To create a dedicated account for License Server

For security reasons, we recommend that you do not start License Server as *root*. We suggest that you create a dedicated account (for example, *paradigm*) with restricted rights on the server computer. Use this account each time you want to stop or restart License Server or install new licenses.

To download License Server files

- ◆ If you do not have SKUA 2009.4 and GOCAD 2009.4 on DVD, download one of the License Server packages from either of these Paradigm download sites:
 - <http://skua-download.pdgm.com/>
 - <http://gocad-download.pdgm.com/>

Download the package that corresponds to your operating system.

Note License Server packages for all supported operating systems are distributed on the DVD.

To install License Server

- 1 Do one of the following:
 - If you downloaded License Server and the file is not in the directory where you want to install the program, copy the file to the installation directory.
 - If you are installing License Server from DVD, copy the package from a SKUA 2009.4 and GOCAD 2009.4 DVD to the installation directory. (License Server packages for all supported operating systems are included on the DVD.)
- 2 Type the following command to move to the installation directory:
cd *InstallationPath*
- 3 Type the following command to extract the License Server files, where *platform* matches the operating system and processor from the package name:
gunzip < LicenseServer-11.6.*platform*.tar.gz | tar xvf -
This creates a folder named PDGM/Licenses, which contains all License Server programs and utilities.

To install the license file

- ◆ Copy the license file that you received from Paradigm to the folder *InstallationPath*/PDGM/Licenses. Rename the license file *gocadlmd.lic*.

Important The SERVER line in the license file must match the name of the computer for which the license file is issued. If this is not the case, the SERVER line must be edited. For more information, see "SERVER lines" on page 3-4.

To set up the license option file—Basic Developer Kit (Developer-Based)

If you have a Basic Developer Kit (Developer-Based) license, you must also set up a license option file. For information, see "Setting Up the License Option File—Basic Developer Kit (Developer-Based)" on page 3-12.

To start License Server

- ◆ Do one of the following to start License Server:
 - If you are using the C shell, type a command similar to the following example:

```
cd InstallationPath/PDGM/Licenses  
./lmgd -c gocadlmd.lic >& gocadlmd.log
```

- If you are using either the Korn or Bourne shell, type a command similar to the following example:

```
cd InstallationPath/PDGM/Licenses  
./lmgd -c gocadlmd.lic > gocadlmd.log 2>&1
```

Note lmgd is the License Server daemon.

License Server starts in the background and logs the server output to the file PDGM/Licenses/gocadlmd.log.

We recommend that you configure your computer to run the License Server automatically at system startup.

You can check the content of gocadlmd.log for any error messages. If there are error messages and you need assistance, contact Paradigm Customer Support at: www.pdgm.com/support.

Ensure that you include a copy of the gocadlmd.log file and your licence file in your support request.

Where to go from here

After you install License Server, you can start SKUA or GOCAD. For information, see "Starting SKUA and GOCAD on Linux (Standalone)" on page 2-11.

3.3.3 Stopping License Server

The following explains how to stop License Server in a Linux environment.

To stop the License Server

- ◆ Type the following commands to stop the License Server:

```
cd InstallationPath/PDGM/Licenses  
./lmdown
```

3.4 Installing or Upgrading License Server 11.6 on Windows

The following sections describe how to either upgrade from an earlier version of License Server or perform a fresh installation in a Windows environment.

It is necessary to install License Server 11.6 on only the server computer for which the license file is issued. In larger organizations, License Server is installed on a server computer while SKUA and GOCAD are installed on many client computers. With this scenario, if your computer is one of the client computers, you do not need to install License Server on your computer.

If you are upgrading an earlier version of License Server to the latest version, see ["Removing an Earlier Version of the License Server" on page 3-9](#).

If you are performing a new installation, complete the process described in ["Installing a New License Server" on page 3-10](#).

3.4.1 Removing an Earlier Version of the License Server

This section presents instructions for removing the version of License Server that controlled access to earlier versions of Paradigm products.

A license server may not be installed on your computer if you were using a license file that was installed on a remote server or if you were using a type of license, called a node-locked, serverless license, that did not require a license server.

To deactivate the License Server

- 1 Ensure that you keep a copy of your old license file. You can name it, for example, `gocadlmd.bak` (in *InstallationPath*\PDGM\Licenses).
Note Your current license file should have the path name *InstallationPath*\PDGM\Licenses\gocadlmd.lic.
- 2 If you have an option file for the Basic Developer Kit (Developer-Based) license, gather the list of user names that you want to authorize to access the license.
For information about the option file, see ["Setting Up the License Option File—Basic Developer Kit \(Developer-Based\)" on page 3-12](#).
- 3 To start the License Server configuration tool, click **Start** on the Windows taskbar, point to **All Programs**, point to **Earth Decision License Manager > License Server Configuration Utility 11.3**. (For other versions, the shortcut is in a different location on the menu.)
– or –
Locate and run `lmttools.exe`.
- 4 On the **Service/License File** tab, select **Configuration Using Services**.
- 5 On the **Configure Services** tab, clear the **Start Server at Power Up** and **Use Services** check boxes.
- 6 Restart the computer.

To remove the License Server

- 1 On the Windows taskbar, click **Start**, click **Control Panel**, and then double-click **Add or Remove Programs** (Windows XP) or **Programs and Features** (Windows Vista and Windows 7).
- 2 Select **FLEXnet License Server x.x** (the earlier version of FLEXnet), and then click **Remove**.
- 3 When you are prompted to confirm that you want to remove the FLEXnet License Server, click **Yes**.

After you remove the earlier version of the License Server, you are ready to install License Server 11.6.

3.4.2 Installing Dongle Device Drivers

Dongle licenses require that special drivers be installed on the computer to which the dongle is attached. Dongle licenses work only with Microsoft Windows operating systems. The type of dongle is determined by the FLEX ID, which is labeled on the dongle itself.

The dongle drivers can be downloaded from the Paradigm download site, and they are included on the SKUA 2009.4 and GOCAD 2009.4 DVD. The drivers are set up by an automatic installation program.

To download the dongle device drivers (dongle license only)

- ◆ If you do not have SKUA 2009.4 and GOCAD 2009.4 on DVD, download the Dongle Driver package from either of these Paradigm download sites:
 - <http://skua-download.pdgm.com/>
 - <http://gocad-download.pdgm.com/>

To install Dongle Drivers (dongle license only)

- 1 If you downloaded the Dongle Driver package, double-click the downloaded file.
 - or –
 - If you are installing the Dongle Driver package from DVD, do the following:
 - a Place the SKUA 2009.4 and GOCAD 2009.4 DVD in your DVD drive, open **My Computer**, and then double-click the DVD name to display its contents.
 - b Open the **DongleDrivers** folder, and then double-click: **DongleDrivers-*VersionNumber*-Windows.exe**.
- 2 Follow the instructions in the installation wizard.

3.4.3 Installing a New License Server

Complete the following procedures to install the new License Server in a Windows environment:

- "To download License Server files," page 3-11
- "To install License Server," page 3-11
- "To install the license file," page 3-11
- "To set up the license option file—Basic Developer Kit (Developer-Based)," page 3-11
- "To finish License Server configuration," page 3-11
- "Where to go from here," page 3-11

Note You need Administrator rights to install License Server.

To download License Server files

- ◆ If you do not have SKUA 2009.4 and GOCAD 2009.4 on DVD, download the License Server package for Windows from either of these Paradigm download sites:
 - <http://skua-download.pdgm.com/>
 - <http://gocad-download.pdgm.com/>

Note License Server packages for all supported operating systems are included on the DVD.

To install License Server

- 1 If you downloaded License Server, double-click the downloaded file.
– or –
If you are installing License Server from DVD, do the following:
 - a Place a SKUA 2009.4 and GOCAD 2009.4 DVD in your DVD drive, open **My Computer**, and double-click the DVD name to display its contents. (License Server packages for all supported operating systems are included on the DVD.)
 - b Open the **LicenseServer** folder, and then double-click **LicenseServer-11.6-Windows.msi**.
The **InstallShield Wizard** opens.
- 2 Follow the instructions in the installation wizard.

To install the license file

- ◆ Copy the license file that you received from Paradigm (gocadlmd.lic) into the folder *InstallationPath*\PDGMLicenses.

Important The SERVER line in the license file must match the name of the computer for which the license file is issued. If this is not the case, you need to edit the SERVER line. For more information, see "SERVER lines" on page 3-4.

To set up the license option file—Basic Developer Kit (Developer-Based)

If you have a Basic Developer Kit (Developer-Based) license, you must also set up a license option file. For information, see "Setting Up the License Option File—Basic Developer Kit (Developer-Based)" on page 3-12.

To finish License Server configuration

- 1 On the Windows taskbar, click **Start**, point to **All Programs**, point to **License Server**, and then click **License Server Configuration Utility**. A dialog box with several tabs opens.
- 2 On the **Service/License File** tab, click **Configure Using Services**, and then click **License Server** in the list.
- 3 On the **Config Services** tab, select the **Use Services** and **Start Server at Power Up** check boxes.
- 4 Click **Save Service**.
- 5 Restart the computer.

You can check the content of gocadlmd.log located in *InstallationPath*\PDGMLicenses for any error messages. If there are error messages and you need assistance, contact Paradigm Customer Support at www.pdgm.com/support. Ensure that you include a copy of the gocadlmd.log file in your support request.

Where to go from here

After you install License Server, you can start SKUA 2009.4 or GOCAD 2009.4. For more information, see "Starting SKUA and GOCAD on Windows" on page 2-12.

3.5 Setting Up the License Option File—Basic Developer Kit (Developer-Based)

The Basic Developer Kit (Developer-Based) license requires that you specify the user names of the license users in an option file. The option file must be named `gocadlmd.opt`, and it must be in the same folder as `gocadlmd.lic`. This file can be modified at any time without affecting the validity of the license; however, License Server must be restarted if you modify the file.

To set up the license option file for Basic Developer Kit (Developer-Based)

- 1 Remove the # character from the GROUP line in the `gocadlmd.opt` file (included in the License Server package) and modify the list of logon names authorized to access the developer kit.

```
# GOCAD License Server Option File
#
# Uncomment the following GROUP line if you have purchased
# a "Basic Developer Kit (Developer-Based)"
# license.
# The following line should contain the list of
# logins authorized to access the license.
#
# GROUP Developers login1 login2 login3 ← GROUP line
#
.
.
.

#EOF
```

Note The number of users you specify cannot exceed the number of licenses granted in the license file. You can find this number in the INCREMENT paragraph (see ["INCREMENT Paragraphs" on page 3-4](#)) of the license file for the Basic Developer Kit (Developer-Based) product. If the number of users you specify is less than the number of licenses granted in the license file, the remaining licenses *will not* be available.

- 2 Restart License Server.

Important You must restart License Server any time you modify the option file. Reloading the server with the **Imreread** command is not sufficient.

3.6 Updating the License File

This section explains how to update the license file. Updating the license file is necessary if, for example, you purchase a new Paradigm product or renew your maintenance contract. In these cases, Paradigm sends you a new license file that fully replaces all previously issued license files. You cannot combine license files.

Complete the procedure for your environment. License Server 11.6 should be running before you start the following procedures.

To replace the license file on Linux

- 1 In the *InstallationPath*/PDGM/Licenses directory, replace the current license file (gocadlmd.lic) with the new license file, naming the new file **gocadlmd.lic**.

Note You can keep a copy of an old license file in the same folder by renaming it, for example, gocadlmd.bak.

- 2 Restart License Server. For information, see ["To start License Server" on page 3-8](#).

To replace the license file on Windows

- 1 In the *InstallationPath*/PDGM/Licenses folder, replace the current license file (gocadlmd.lic) with the new license file, naming the new file **gocadlmd.lic**.

Note You can keep a copy of an old license file in the same folder by renaming it, for example, gocadlmd.bak.

- 2 Restart the computer.

3.7 Frequently Asked Questions About License Server

This section answers the following frequently asked questions about License Server:

- "How Do I Find the Host ID for My Computer?," page 3-14
- "How Do I Switch from One License Server to Another?," page 3-15
- "What Is the GOCADLMD_LICENSE_FILE Environment Variable?," page 3-16

3.7.1 How Do I Find the Host ID for My Computer?

The Host ID is a 12-character (Microsoft Windows, Linux) hexadecimal number that provides the physical address of the Ethernet card. It is neither the workstation's IP address, nor the serial number.

To get the Host ID on Windows

Although there are other methods, use the following one to ensure the you find the required Host ID.

- 1 On the Windows taskbar, click **Start**, and then click **Run**.
- 2 Type **cmd**, and then click **OK** to open a command prompt.
- 3 Type **ipconfig /all**, and then press ENTER to see information such as the following:

```
Windows IP Configuration

    Host Name . . . . . : mycomputer
    Primary Dns Suffix . . . . . : mycompany.com
    Node Type . . . . . : Unknown
    IP Routing Enabled. . . . . : No
    WINS Proxy Enabled. . . . . : No
    DNS Suffix Search List. . . . . : mycompany.com

Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix . . : mycompany.com
    Description . . . . . : Broadcom 440x 10/100
    Integrated Controller
    Physical Address. . . . . : 00-0D-56-AF-18-0F
    Dhcp Enabled. . . . . : Yes
    Autoconfiguration Enabled . . . . . : Yes
    IP Address. . . . . : 10.1.13.32
    Subnet Mask . . . . . : 255.255.0.0
    Default Gateway . . . . . : 10.1.1.1
    DHCP Server . . . . . : 10.1.10.57
    DNS Servers . . . . . : 10.1.10.57
                            10.1.10.24
    Lease Obtained. . . . . : June 05, 2008
    Lease Expires . . . . . : June 18, 2008
```

- 4 Send the all of the resulting output to the person who requested the Host ID.

Important Be sure to send the full contents of ipconfig/all, especially if your computer is a notebook. To generate a license, Paradigm requires the physical address: the Host ID of the fixed Ethernet card, not the wireless one.

To get the Host ID on Linux

Retrieve the Host ID by using the `lmhostid` utility, which you can download from the Paradigm download site. Running `lmhostid` within Linux gives you a 12-character Host ID. Although there are several Linux "hostid" commands, they return a number that does not correspond to the required Host ID. Only the following method is accurate.

- 1 Download `lmhostid` for your operating system from either of these Paradigm download sites:
 - <http://skua-download.pdgm.com/>
 - <http://gocad-download.pdgm.com/>
- 2 Type the following command at a command prompt to set execution rights on the `lmhostid` utility, where *platform* matches the operating system and processor from the package name:

```
chmod u+x ./lmhostid-11.6-platform
```

Type the following command at a command prompt to rename the `lmhostid` utility:

```
mv ./lmhostid-11.6-platform lmhostid
```

- 3 Type the following command at a command prompt to run the `lmhostid` utility:
./lmhostid

Running `lmhostid` gives you results similar to the following:

```
% lmhostid
lmhostid -Copyright (C) 1989-2002 Globetrotter Software, Inc.
The FLEXnet host ID of this machine is "12345678"
```

- 4 Send the resulting output to the person who requested the Host ID.

3.7.2 How Do I Switch from One License Server to Another?

The information for the license server you are using is stored in the registry on Windows and in `$HOME/.flexlmrc` on Linux. On Windows, to switch from one License Server to another, you need to delete this information from the registry. On Linux, you need to remove the file `$HOME/.flexlmrc`. You might want to do this, for example, to switch from the License Server on your computer to one on a network.

To switch from one License Server to another on Windows

- 1 Click the **Start** button, click **Run**, type **regedit**, and then click **OK**.
- 2 In the **Registry Editor**, click the **Edit** menu, and then click **Find**.
- 3 In the **Find** dialog box, type **GOCADLMD_LICENSE_FILE**, and then click **Find Next**.
- 4 When the list of files appears, delete **GOCADLMD_LICENSE_FILE**.

When you start SKUA 2009.4 or GOCAD 2009.4, the **FLEXnet License Finder** dialog box opens and you are prompted to specify the license server. For information about how to specify the license server, see "[Starting SKUA and GOCAD on Windows](#)" on page 2-12.

To switch from one License Server to another on Linux

- ◆ Type the following command at a command prompt, and then press ENTER:
rm \$HOME/.flexlmrc

You can now start SKUA 2009.4 or GOCAD 2009.4. For information, see "[Starting SKUA and GOCAD on Linux \(Standalone\)](#)" on page 2-11.

3.7.3 What Is the GOCADLMD_LICENSE_FILE Environment Variable?

GOCADLMD_LICENSE_FILE is an environment variable that can specify explicitly where you want SKUA 2009.4 and GOCAD 2009.4 to search for license information. The value of this variable is *port@host*, where *port* is the TCP/IP number and *host* is a server name such as *server.mycompany.com* or an IP address such as 192.168.1.1.

If you are installing License Server locally on a Windows 64-bit computer or you are running SKUA or GOCAD on a Windows 64-bit computer and connecting to a remote License Server, you must set this environment variable. For information, see "[To start SKUA or GOCAD on Windows x64 Systems \(64 bits\)](#)" on page 2-14.

You can also use this environment variable for troubleshooting your License Server. To switch from one license server to another, see "[How Do I Switch from One License Server to Another?](#)" on page 3-15.

Otherwise, setting this environment variable is not required to run SKUA and GOCAD, and we recommended that you do not use it.

Installing Developer Kits

In this chapter

- "About Developer Products," page 4-2
- "Installation Process," page 4-2
- "About Qt," page 4-4
- "Installing Developer Kits," page 4-4
- "Setting Up the GOCAD_LICENSE Environment Variable," page 4-7

Overview

The Paradigm™ Basic Developer Kit 2009.4, the Paradigm™ SKUA® 2009.4 Developer Kit, and the Paradigm™ Workflow Developer Kit 2009.4 are products that developers can use to build software based on Paradigm technology. The following topics explain how to install and configure these developer kits.

4.1 About Developer Products

Paradigm offers the following developer products:

- **Basic Developer Kit (Shared).** This product incorporates a subset of GOCAD Base Module functionality for use in development. Basic Developer Kit requires that you first install GOCAD 2009.4. The Basic Developer Kit license permits use of the product only for the purposes of developing and testing independent programs or GOCAD plug-ins. This license also permits sharing the Basic Developer Kit among developers in an organization.
- **Basic Developer Kit (Developer-Based).** This product is identical to Basic Developer Kit (Shared) except that this license does not permit sharing among developers in an organization. The license provides access only for a specific developer.

Basic Developer Kit products are packaged together, so you do not need to download multiple packages.

- **Workflow Developer Kit.** This product includes workflow functionality that builds on the functionality of the Basic Developer Kit. It requires that you first install GOCAD 2009.4 and the Basic Developer Kit.
- **SKUA 2009.4 Developer Kit.** This product includes advanced SKUA functionality that builds on the functionality of Basic Developer Kit. SKUA 2009.4 Developer Kit requires that you first install GOCAD 2009.4, Basic Developer Kit, and SKUA 2009.4. The license for SKUA 2009.4 Developer Kit permits use of the product only for the purposes of developing and testing independent programs or SKUA plug-ins. This license also permits sharing developer kits among developers in an organization.

4.2 Installation Process

If you have not done so already, install GOCAD 2009.4 and SKUA 2009.4 on the computer where you intend to install the developer kit. For information, see ["Installing GOCAD and SKUA" on page 2-4](#).

[Table 4–1](#) summarizes the developer kit installation process and lists where you can find information about how to complete each step.

Table 4–1 Installing a developer kit

Installation step	For information, see
1 Purchase a Qt Enterprise License if required for your environment.	"About Qt," page 4-4
2 Download the Basic Developer Kit software.	"Downloading SKUA, GOCAD, and Related Products," page 2-2
3 If you are installing SKUA 2009.4 Developer Kit, Workflow Developer Kit 2009.4, or both, download the installation files.	"Downloading SKUA, GOCAD, and Related Products," page 2-2
4 Install Basic Developer Kit on the computer where you installed GOCAD 2009.4.	"Installing Developer Kits," page 4-4
5 If you are installing the SKUA Developer Kit, install SKUA 2009.4 Developer Kit on the computer where you installed GOCAD 2009.4, Basic Developer Kit, and SKUA 2009.4.	"Installing Developer Kits," page 4-4
6 For each developer who will use Basic Developer Kit (Shared or Developer-Based) or SKUA 2009.4 Developer Kit, set up the GOCAD_LICENSE environment variable.	"Setting Up the GOCAD_LICENSE Environment Variable," page 4-7

Installation step	For information, see
7 For each developer who will use Basic Developer Kit (Developer-Based), set up the license server option file to contain the developer's user name.	"Setting Up the License Option File—Basic Developer Kit (Developer-Based)," page 3-12
8 If purchased, install the Workflow Developer Kit.	The Workflow Developer Kit installation process is similar to developer kit installation process as described in "Installing Developer Kits," page 4-4 . It is installed in the same directory as the Basic Developer Kit.

4.3 About Qt

Do I need to purchase a Qt Enterprise license?

For Linux, Basic Developer Kit contains Qt libraries and header files that will allow you to create modules and plug-ins. Most development on Linux does not require the purchase of a Qt Enterprise License. However, if your development uses the Qt utilities moc and uic, you will need to purchase a Qt Enterprise License from Nokia.

For Windows, a Qt Enterprise License is required to develop with Basic Developer Kit.

To obtain and install Qt

If you determine that you need to purchase a Qt Enterprise License, complete the following procedure:

- 1 Purchase a Qt Enterprise License from the Nokia Web site:
<http://qt.nokia.com/contact>
- 2 Submit the e-mail confirming that you purchased Qt Enterprise License from Nokia to Paradigm Customer Support at www.pdgm.com/support.

Upon receipt, Paradigm will send you the logon name and password that you need to download the SKUA and GOCAD Qt libraries.

- 3 Download the SKUA and GOCAD Qt libraries. For information, see "[Downloading SKUA, GOCAD, and Related Products](#)" on page 2-2.
- 4 Extract the downloaded file into the PDGM installation folder.

4.4 Installing Developer Kits

The steps to install a developer kit are different for Linux and Windows environments. Complete the procedures for your environment.

Before you can install a developer kit, you need to obtain a developer kit package for your operating environment. If you have not downloaded a package or obtained a DVD, complete the steps in "[Downloading SKUA, GOCAD, and Related Products](#)" on page 2-2 before you continue.

You should also ensure that SKUA and GOCAD are installed as necessary (see "[Installation Process](#)" on page 4-2) before you begin the following procedures to install a developer kit.

4.4.1 Installing a Developer Kit on Linux

All developer kit packages for Linux are installed in the main installation directory by extracting a compressed archive. All Paradigm products must reside under a common directory, such as the predefined directory name, PDGM.

If you plan to use a developer kit on multiple Linux operating systems, you need to download and install the developer kit package for each operating system. The installation process handles correct file placement automatically, allowing multiple installations to reside in the same directory.

Important

- You need to install Basic Developer Kit where you installed GOCAD 2009.4.
- To install SKUA 2009.4 Developer Kit, you need to first install Basic Developer Kit where you installed GOCAD 2009.4 and SKUA 2009.4, and then install

SKUA 2009.4 Developer Kit on the same computer. The installation steps are the same for each developer kit.

To install a developer kit on Linux

- 1 Do one of the following:
 - If you downloaded a developer kit package and the file is not in the directory where you want to install the program, copy the file to the installation directory.
 - If you obtained a developer kit package on DVD, copy the package from the appropriate DVD to the installation directory.
- 2 Type the following command to move to the installation directory:
cd *installation_directory*
- 3 Type one of the following commands to extract the files, depending on the kit you are installing:
gunzip < Basic-Developer-Kit-2009.4-*platform*.tar.gz | tar xvf -
gunzip < SKUA-2009.4-Developer-Kit-*platform*.tar.gz | tar xvf -
Where *platform* matches the operating system and processor from the package name.

4.4.2 Installing a Developer Kit on Windows

Complete the following steps to install a developer kit on Windows.

Important

- You need to install Basic Developer Kit where you installed GOCAD 2009.4.
- To install SKUA 2009.4 Developer Kit, you need to first install Basic Developer Kit where you installed GOCAD 2009.4 and SKUA 2009.4, and then install SKUA 2009.4 Developer Kit on the same computer.

The installation steps are the same for each developer kit.

To install a developer kit on Windows

- 1 If you downloaded a developer kit package, locate and double-click the downloaded file.
– or –
If you obtained a developer kit package on DVD, do the following:
 - a Place the DVD in your DVD drive, open **My Computer**, and double-click the DVD name to display the DVD contents.
 - b Open the **Developer Kit** folder, and then double-click one of the following files, depending on the kit you are installing:
Basic-Developer-Kit-2009.4-*platform*.msi
SKUA-2009.4-Developer-Kit-*platform*.msi
Where *platform* matches the operating system and processor from the package name.
- Whether you are using a DVD or a downloaded file, the installation wizard opens after a few moments.

- 2 Follow the instructions in the installation wizard.

Notes

- If a developer kit is installed on a server, it will not run on a local computer unless the runtime library MSVCR80.dll is installed. If you attempt to run a developer kit locally and this library is not installed, a message notifies you that the program failed to start because MSVCR80.dll was not found. If you receive this message, complete the steps in "[Configuring SKUA and GOCAD to Run from a Shared Location \(Windows\)](#)" on page 2-7.
- Although you can install the x64 version developer kit, you will only be able to develop products for the x86 environment.

4.4.3 Configuring a Developer Kit to Run from a Shared Location (Windows)

For Windows environments, if you installed a developer kit on a server, the necessary runtime library must be installed for the program to run on a local computer.

The process for installing the runtime library for a developer kit is the same as that for configuring SKUA and GOCAD to run on a server. For information, see "[Configuring SKUA and GOCAD to Run from a Shared Location \(Windows\)](#)" on page 2-7.

4.5 Setting Up the GOCAD_LICENSE Environment Variable

If you have a Basic Developer Kit license, you need to set the **GOCAD_LICENSE** environment variable to **dsl** for each developer who will use the product.

To set GOCAD_LICENSE environment variable on Linux

- ◆ Do one of the following:
 - If you are using C Shell, type the following at a command prompt:
setenv GOCAD_LICENSE dsl
 - If you are using Korn Shell, type the following at a command prompt:
export GOCAD_LICENSE=dsl

To set GOCAD_LICENSE environment variable on Windows

- 1 Right-click **My Computer**, and then select **Properties** to open the **System Properties** dialog box.
- 2 Click the **Advanced** tab, and then click **Environment Variables**.
- 3 In the **User Variables** section at the top, click **New** to open the **New User Variable** dialog box.
- 4 In the **Variable name** box, type **GOCAD_LICENSE**.
- 5 In the **Variable value** box, type **dsl**.
- 6 Click **OK**.

